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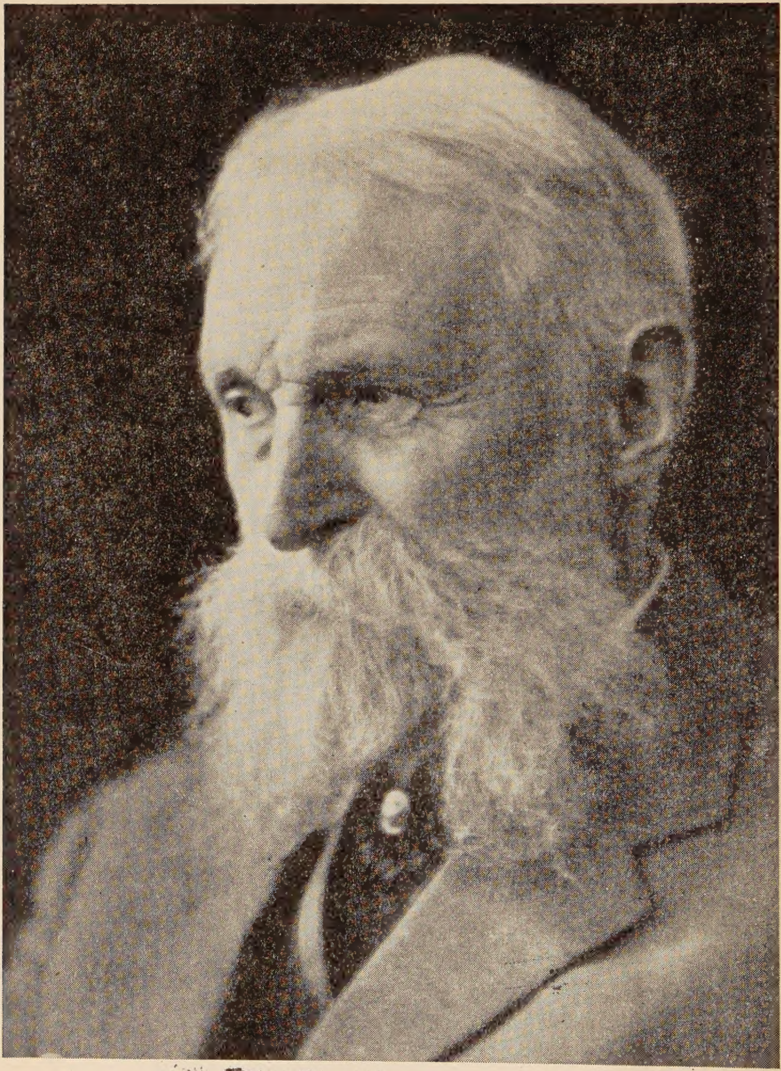

ALBERT BUSHNELL HART
JULY 1, 1854-JUNE 16, 1943

To the annals of our heritage
He brought a brave and living pen.

THE AMERICAN YEAR BOOK

A Record of Events and Progress

YEAR 1943

EDITOR

WILLIAM M. SCHUYLER

EDITED WITH THE COOPERATION OF A SUPERVISORY BOARD REPRESENTING NATIONAL LEARNED SOCIETIES

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1944

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PREFACE

This is the twenty-ninth issue of the total series to date of The American Year Book and the nineteenth of the second series which began in 1925. It is fitting that this issue should be dedicated to the founder, Albert Bushnell Hart, who died on June 16, 1943 at the advanced age of nearly eighty-nine years. Somewhat diffidently the editor has taken the liberty of reprinting here from *The New York Times* the verses which he wrote in tribute to Dr. Hart. He feels that he can not better express his own conception of the man as formed during an association of more than eighteen years, and, he hopes, the conception also held by those who knew and valued his achievements and human qualities.

His was the surge of a valiant soul!
  He trod this earth with purposed tread,
  Dauntless to meet what lay ahead,
Hewing his path to a selfless goal.

He gave to life all he had to give—
  The riches of an open heart,
  Eager and boundless to impart
The quick of the pulsing zest to live.

To the annals of our heritage
  He brought a brave and living pen;
  For him no hushed, sequestered den,
Nor set routine of the cloistered sage.

The years unrolled to the mortal end,
  Each year a guerdon in the span
  That gives the measure of the man,
The teacher, counselor, guide—and Friend!

In founding The American Year Book, Dr. Hart had a two-fold purpose in mind—to provide for American readers a continuing narrative of their own times and to create for future historians and students of human progress an authentic record of an epoch contemporaneously interpreted. We are now in the midst of that epoch which began at the end of the first decade of the century. At no period of it has public interest been greater or more intelligently manifested than at present. It is pertinent in a work of this character, though perhaps trite, to repeat the reminder that a conflict of such vast scope as the Second World War influenced deed and thought in every field in the year 1943 as it did, possibly in lesser degree, in the three previous years. The impact of the war in 1943 was direct, positive, and cumulative. It involved the people of the United States individually and in mass. Cause and effect were reasonably clear to every thinking person. Six months, one year, two years hence, cause and effect are likely to be far less clear because of the rapid and confused piling of event on event. In the pages of this volume the events and their interpretation have been preserved in ordered and related sequence for reference and for study. In the pages of previous volumes the recording of events leads step by step to the record of the moment in which we are living. The entire series of The American Year Book, it should be noted, embraces a period comprising two world wars, a period in the panorama of American history that will have a future significance now difficult for us fully to realize because of our proximity to it. In thus carrying on the founder's purpose in the past, present, and future volumes, we are perhaps paying the best of all tributes to the vision and prescience of a scholar whose passion was to serve and instruct.

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THE AMERICAN
YEAR BOOK

THE
AMERICAN YEAR BOOK

A RECORD OF EVENTS AND PROGRESS

PART ONE

HISTORICAL

DIVISION I

AMERICAN POLITICAL HISTORY

THE PRESIDENT AND HIS POLICIES

By Everett S. Brown
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FOREIGN POLICIES

On Jan. 1, 1943, the first anniversary of the signing of the United Nations Declaration at Washington, President Roosevelt issued a statement to his press conference outlining a three-fold task: "first, to press on with the massed forces of free humanity till the present bandit assault upon civilization is completely crushed; second, so to organize relations among nations that forces of barbarism can never again break loose; third, to cooperate to the end that mankind may enjoy in peace and in freedom the unprecedented blessings which Divine Providence through the progress of civilization has put within our reach." He asserted that the United Nations were passing from the defensive to the offensive, and added that there was recognized on all sides the necessity of carrying forward into peace the common effort which will have brought victory in the war, since all kinds of planning for the future, economic and social, were dependent on the maintenance of peace.

ANNUAL MESSAGE

In his message to Congress on Jan. 7, the President expressed his belief that the year of 1943 would give to the United Nations "a very substantial advance along the roads that lead to Berlin and Rome and Tokyo." He said it was clear that "if Germany or Italy or Japan—or any of them—remain armed at the end of this war, or are permitted to re-arm, they will again, and inevitably, embark upon an ambitious career of world conquest. They must be disarmed and kept disarmed, and they must abandon the philosophy, and the teaching of that philosophy, which has brought so much suffering to the world." Reviewing the strategic situation, the President said that

Japanese strength in ships and planes was going down and American strength was going up. The period of our defensive attention in the Pacific was passing. Our aim, he asserted, was to force the Japanese to fight. He reported that we were flying as much lend-lease material into China as ever traversed the Burma Road.

With respect to the European area the President, after reviewing the war on all fronts, predicted that the United Nations would strike hard. He promised that tons upon tons of explosives would be heaped on the war factories and utilities and seaports of the enemy.

Turning to the period after the war, President Roosevelt said that "the men in our armed forces want a lasting peace, and, equally, they want permanent employment for themselves, their families and their neighbors. . . . They expect the opportunity to work, to run their farms, their stores, to earn decent wages. They are eager to face the risks inherent in our system of free enterprise." He warned that "economic safety for the America of the future is threatened unless a greater economic stability comes to the rest of the world. We can not make America an island in either a military or an economic sense."

CASABLANCA CONFERENCES

An official communique issued from Casablanca, French Morocco on Jan. 26, 1943 announced that President Roosevelt and Prime Minister Churchill had been in conference near Casablanca since Jan. 14. They were accompanied by the combined Chiefs of Staff of the two countries and had surveyed the entire field of the war. Plans were made to marshal all resources for a more intense prosecution of the war by sea, land, and air. It was stated that Premier Stalin had been invited to attend the conference but was unable to leave Russia on account of military operations there. Stalin had been fully informed of military proposals to be undertaken during 1943, as had also Generalissimo Chiang Kai-shek.

Returning to Washington by way of Trinidad, Brazil, where he met President Vargas, President Roosevelt told reporters at his conference with them on Feb. 2 that unanimous agreement aimed at unconditional surrender of the Axis powers had been reached at Casablanca. Discussing the political situation in French North Africa he said that the political problem was essentially a military one, and predicted that as a result of the meeting of Generals Giraud and De Gaulle at Casablanca there would be greater cooperation and coordination between the two French leaders and their staffs.

LINCOLN DAY ADDRESS

On Feb. 12, President Roosevelt took advantage of the anniversary of the birth of Abraham Lincoln to broadcast a review of his recent trip to Casablanca, the important decisions reached at the conference there, and the aims and aspirations of the men engaged in the world war. He repeated his earlier declaration that the only terms on which we shall deal with any Axis government are unconditional surrender. On the part of the Allies this involved standing together until both Germany and Japan had been defeated and a peace secured on the basis of principles of permanence. Referring to the French in particular, the President said it was one of our war aims, as expressed in the Atlantic Charter, "that the conquered populations of today be again the masters of their destiny. There must be no doubt anywhere that it is the unalterable purpose of the United Nations to restore to conquered peoples their sacred rights." This meant that once the foe had been expelled from France, Frenchmen would be represented by a government of their own popular choice.

The President said that every American fights for freedom and that this freedom depends upon the freedom of people in other lands. He declared that unless the peace following the war "recognizes that the whole world is one neighborhood and does justice to the whole human race, the germs of another world war will remain as a constant threat to mankind." Narrowing his observations more particularly to the United States, the President said that "a fundamental of an effective peace is the assurance to those men who are fighting our battles, that when they come home they will find a country with an economy firm enough and fair enough to provide jobs for all those who are willing to work." He expressed certainty that private enterprise would be able to provide the vast majority of the jobs, and in those cases where this could not be accomplished, that Congress would enact legislation making good the assurance of jobs.

RELATIONS WITH CHINA

President Roosevelt, in a joint press conference with Madam Chiang Kai-shek on Feb. 19, pledged that the United States would increase aid to China, and would get more implements of war to China as fast and in as great volume as possible. He spoke of the intention of United States army and navy leaders to cut Japan's lengthening supply line near the top, using China itself as a base of operations more and more as the war progresses. He emphasized that this statement did not represent a change in policy but rather the result of greater emphasis on trying to get the policy operating as soon as possible.

On Oct. 11, President Roosevelt urged Congress to permit the immigration of Chinese people into the United States and to allow Chinese residents here to become American citizens. By the repeal of Chinese exclusion acts, the President said, "we can correct a historic mistake and silence the distorted Japanese propaganda." Congress acted favorably on the suggestion.

NOTE TO POPE PIUS

In a communication of July 10, President Roosevelt, announcing the invasion of Italy by American and British troops, assured Pope Pius that, so far as possible, churches and religious institutions would be spared the devastations of war, and that the neutral status of Vatican City as well as the papal domains throughout Italy would be respected.

JOINT MESSAGES TO ITALIANS

By a joint message of July 16, President Roosevelt and Prime Minister Churchill told the Italian people that the sole hope for Italy's survival lay in honorable capitulation to the overwhelming power of the military forces of the United Nations, and warned them that if they continued to tolerate the Fascist regime they must suffer the consequences of their choice. Declaring that all Italian interests and traditions had been betrayed by Nazi Germany and their own false and corrupt leaders, the President and the Prime Minister said that only by disavowing both could a reconstituted Italy hope to occupy a respected place in the family of European nations.

On Sept. 10 the President and Mr. Churchill made a second joint appeal to the Italian people urging them to join their American and British friends in driving the German invaders from Italy.

PROGRESS OF WAR AND PLANS FOR PEACE

The President took advantage of the successful military campaign in Sicily to broadcast on July 28 a review of the war situation and to outline a legislative program for the immediate post-war period. Referring to the impending break-down of the Fascist regime in Italy, he promised that all Fascist leaders would be punished. He declared that it was our determination to restore all the peoples conquered by Nazis, Fascists, and Japanese militarists "to the dignity of human beings, masters of their own fate, entitled to freedom of speech, freedom of religion, freedom from want, freedom from fear." He paid tribute to the Allied forces and said the war would be prosecuted vigorously on all fronts.

The President declared that the United Nations were substantially agreed on the general objectives of the post-war world. While concentrating on military victory, they were not neglecting the planning of the things to come. In the domestic field the President outlined a program of legislation which he proposed laying before Congress. It included mustering-out pay for members of the armed forces; unemployment insurance; education at the cost of the Government; allowance of credit to all members of the armed forces, under unemployment compensation and Federal old-age and survivors' insurance, for their period of service; improved and liberalized provisions for hospitalization, rehabilitation, and medical care of disabled members of the armed forces and merchant marine; and sufficient pensions for disabled members of the armed forces.

In a message to Congress on Sept. 17, the President again reviewed the progress of the war. He said that the landing on Italy had been planned at Casablanca and was not the only one in mind. He added that at Quebec specific and precise plans had been made for blows against Germany and Japan, with definite times and places for other landings on the continent of Europe and elsewhere. Referring to the forcing of Mussolini out of office, the President said that this was merely the first of such downfalls. In this connection he asserted that he wanted to make it clear that "when Hitler and the Nazis go out the Prussian military clique must go with them." He stated that it was the purpose of the Allies to establish bases within bombing range of southern and eastern Germany and bomb these places by day and night, as had already been done in western Germany where military targets had been blown to bits.

Our successes against the Japanese, the President said, had practically dissipated the threat to Australia and New Zealand. He warned, however, that we were still a long way from ultimate victory in any major theater of war and called for a steadily increasing production of ships, planes, tanks, food, and war equipment of every sort.

As on other occasions, President Roosevelt referred to the need for greater economic protection of returning men and women in the armed forces, and a further measure of social security for all our citizens. He asked for "a national co-operation with other nations toward the end that world aggression be ended and that fair international relationships be established on a permanent basis."

ADDRESS TO CANADIAN PARLIAMENT

In an address to members of the Canadian Parliament on Aug. 29, President Roosevelt reviewed the events of the war and emphasized the friendly cooperation between Canadians and Americans. Condemning Nazi and Japanese militaristic policies, he declared that only a real and lasting peace could justify the sacrifices being made to secure absolute victory for the Allies. He derided critics who regarded the four freedoms of the Atlantic Charter as nonsense because unattainable.

PHILIPPINE INDEPENDENCE

In a special message on Oct. 6, President Roosevelt told Congress that the Filipinos, by their heroism and loyalty, had won the right to complete freedom, and asked authority to proclaim the independence of the islands as soon as feasible. He asked that he be empowered to enter into negotiations with President Manuel Quezon "to provide for full security for the Philippines, for the mutual protection of the islands and of the United States, and for the future maintenance of peace in the Pacific." The President also requested that Congress provide for determining the adjustment necessary in the existing provisions of law which govern economic relations between the United States and the Philippines, so as to assist in making the Philippines, as an independent nation, economically secure wherever possible.

On Oct. 22, President Roosevelt said the United States would never consider as lawful any act of the puppet government set up in the Philippines by the Japanese. He declared that the United States would use all its resources to drive the Japanese invaders from the islands and establish a truly independent Philippine nation.

On Aug. 12 the President repeated his pledge to the people of the Philippines that their freedom would be redeemed and their independence established and protected. He promised that the republic of the Philippines would be established the moment the power of our Japanese enemies was destroyed, and urged the Filipinos to stand firm against the false promises of the Japanese.

REBUKE TO ARGENTINA

In a statement issued on Oct. 15, President Roosevelt sharply rebuked Argentina for suspending publication of Jewish newspapers, terming this action in line with characteristics of Nazi doctrines. He said it was a violation of one of the resolutions adopted at the Eighth International Conference of American States at Lima in 1938. Argentina was a party to that resolution.

LEND-LEASE IN REVERSE

On Nov. 11, the President made a detailed report to Congress on reverse lend-lease from the British Commonwealth of Nations to the United States. After noting that, since the enactment of the Lend-Lease Act in March, 1941, he had transmitted to Congress 11 reports describing the lend-lease aid furnished by the United States, he said that "as of June 30, 1943, the British Commonwealth of Nations reported that expenditures of about $1,171,000,000 had been made for reverse lend-lease aid." The United Kingdom expended about $871,000,000 of this amount; and Australia, New Zealand, and India approximately $300,000,000. Based upon estimates for the first six months of the year, expenditures by the British Commonwealth for reverse lend-lease were placed at an annual rate of about $1,250,000,000. This did not take into account the anticipated exports of certain raw materials, commodities, and foodstuffs hitherto purchased by the United States but now by agreement to be included in reverse lend-lease.

It was pointed out that Canada has received no lend-lease aid from the United States, having paid cash for the supplies obtained in this country. However, it was noted that Canada had already made $1,000,000,000 worth of aid available without payment to the United Kingdom and was engaged in making available $1,000,000,000 more in aid to the United Kingdom, Russia, China, and the other United Nations on a mutual aid program similar to our lend-lease program.

The overwhelming benefit which the United States had received from its lend-lease program, the President said, had been the pooling of resources and the combined effort of the United Nations against the Axis countries. By this action, not only had progress been made in the war but the lives of many of our boys as well as those of the Allies had been saved.

ADDRESS TO UNRRA CONFEREES

Immediately after the signing on Nov. 9 by envoys of 44 nations of an agreement creating the United Nations' Relief and Rehabilitation Administration, President Roosevelt delivered an address of welcome. He pointed out that the UNRRA would help "to put into practical effect some of the high purposes that were set forth in the declaration of the United Nations on January 1, 1942." He said that the agreement "shows that we mean business in this war in a political and humanitarian sense, just as surely as we mean business in a military sense. It is one more strong link joining the United Nations and their associates in facing problems of mutual need and mutual interest."

STATEMENT ON NAZI ATROCITIES

In connection with the joint communique issued on Nov. 1, giving the texts of agreements reached at Moscow by American, British, and Russian conferees under the leadership of Cordell Hull, Anthony Eden, and V. M. Molotoff, a statement on atrocities was signed by President Roosevelt, Prime Minister Churchill, and Premier Stalin. This statement warned the Germans that all officers and men who had been responsible for atrocities and mass executions in occupied countries would be sent back to those countries for trial and punishment.

CONFERENCES IN THE MIDDLE EAST

President Roosevelt left Washington Nov. 11 for the Middle East. At a conference with Prime Minister Churchill and Generalissimo Chiang Kai-shek, held in Cairo from Nov. 22 to Nov. 26, an agreement was reached on the policy with respect to Japan. Disclaiming any desire for territorial expansion for themselves, the conferees declared it to be their policy to strip Japan of all islands and territories which she had seized by force.

At Teheran, from Nov. 28 to Dec. 1, the President sat in conference with Mr. Churchill and Premier Joseph Stalin. In a joint declaration signed on Dec. 1, the three Allied leaders expressed their determination to work together to win the war and to lay the foundations for an enduring peace, in which effort they invited the cooperation of all nations who desired to eliminate oppression and intolerance.

Returning from Teheran to Cairo, President Roosevelt met President Ismet Inonu of Turkey. He then made a tour of the route of the British army from El Alamein; met General Eisenhower near the site of Carthage; visited Malta, where he paid a tribute to the defenders and people of that Mediterranean outpost; reviewed troops in Sicily; and arrived in the United States on Dec. 16.

CHRISTMAS RADIO GREETINGS

Addressing Americans at home and overseas by radio on Dec. 24, President Roosevelt stated confidently that, "however great the cost, 'Peace on earth, good will toward men' can be and will be realized and ensured." After a brief review of his conferences at Cairo and Teheran with Prime Minister Churchill, Chiang Kai-shek, and Joseph Stalin, the President announced that General Dwight D. Eisenhower had been selected as commander to lead the American and British attack in western Europe. He also announced that Lieut. Gen. Carl D. Spaatz would command the entire American strategic bombing force operating against Germany. At the same time, he expressed great faith and confidence in General Marshall and Admiral King who direct our armed forces throughout the world and plan our strategy.

With respect to Germany, the President said the Allied leaders were agreed that "Germany must be stripped of her military might and be given no opportunity within the foreseeable future to regain that might." Disclaiming any intention to enslave the German people, he declared that the Allies intended "to rid them once for all of Nazism and Prussian militarism and the fantastic and disastrous notion that they constitute the 'master race.'" He expressed it as his opinion that no insoluble differences would arise among Russia, Great Britain, and the United States, and added that as long as these three nations and China "stick together in determination to keep the peace there will be no possibility of an aggressor nation arising to start another world war." However, the President said, the great powers must cooperate with freedom-loving peoples all over the world. The doctrine of purely voluntary peace having failed, force, if necessary to keep international peace, will be applied, the President concluded.

BUDGET MESSAGE

On Jan. 11, the President submitted to Congress a "maximum effort" war budget for the 1944 fiscal year containing the following items: proposed total spending, $108,903,047,923; war costs, $100,000,000,000; proposed new taxes and forced savings, $16,000,000,000; total Federal revenue, $51,000,000,000; national debt, $210,549,150,459; interest on debt, $3,000,000,000.

The President asked for extension to all income of the limitation of $25,000 net on earned income. He made additional tax recommendations, in general terms, emphasizing that methods of taxation should be determined by Congress. These recommendations were: put taxpayers on a pay-as-you-go basis as far as feasible; simplify the tax system; make taxes on higher and very large incomes fully effective by removing the tax exemption from future issues of such securities as now enjoy that exemption; obtain certain reforms in the tax structure, notably to curtail advantages enjoyed under depletion of reserves provisions and by persons in the few states where married couples are enabled to file joint income tax returns.

The President emphasized the need of making use of all measures of control to effect the stabilization of prices of the necessities of life. He expressed confidence that Congress would implement the stabilization program by adequate legislation increasing taxation, savings, or both, thus helping to "pay as we go" and make the peace easier for ourselves and our children. Toward this end he asked that an attempt be made to collect not less than $16,000,000,000 of additional funds by taxation and savings during the fiscal year 1944. His recommendations contemplated that, in 1944, 96 cents of every dollar expended by the Federal Government would be used to pay war costs and interest, and only four cents for "non-war" purposes.

WAR TAXES

In a letter to Chairman Doughton of the House Ways and Means Committee, made public on Feb. 17, 1943 President Roosevelt asked Congress to levy a special war "super tax" on net incomes that exceed $25,000 for a single person and $50,000 for a married couple. Promising to rescind his Executive Order on salary limitations if taxes were levied which substantially accomplished his purpose, he said the limitation on salaries did not deal adequately with the problem of excessive personal profits and asked that the special war super tax be levied on incomes over $25,000 regardless of the source of such income, including income from tax exempt securities.

On May 17, President Roosevelt addressed identical letters to Senator George and Representative Doughton, chairmen of the Senate and House tax committees, supporting the pay-as-you-go principle in taxation as an aid to holding the line against inflation. He voiced his objection, however, to the Senate bill because it provided for cancellation of a whole year's taxes, which would result, he claimed, "in a highly inequitable distribution of the cost of the war and in an unjust and discriminatory enrichment of thousands of taxpayers in the upper income group."

SUMMATION OF 1944 FEDERAL BUDGET

The President, on July 31, made a statement describing the modifications in the program of the Government resulting from intervening appropriation and revenue acts since submission of his annual budget in January. The dominating factor in the fiscal situation, he pointed out, was war expenditures. He warned that if we should fail in our effort to stabilize the cost of living, or if a substantial general increase in wage rates should take place, war expenditures would exceed the present estimate of $100,000,000,000. He repeated his request for a stiff program of additional taxes, savings, or both, on the ground that the cost of living could not be stabilized unless price and wage controls were supported by a further substantial absorption of purchasing power. He said that the alternative to stabilization was inflation, and inflation was the most inequitable way of distributing the necessary wartime curtailments. The expenditure program, he concluded, "must be backed up by a revenue program of sufficient size to make sure that we do not disrupt our home front and that we do prepare the way for an orderly transition to a future peace economy."

GOVERNMENT OF PUERTO RICO

On March 9, President Roosevelt recommended to Congress "that it consider as soon as possible an amendment of the organic law of Puerto Rico to permit the people of Puerto Rico to elect their own Governor and to redefine the functions and powers of the Federal Government and of the government of Puerto Rico respectively." He appointed a committee to make a study of the amendments to the organic act necessary to effect these changes. On Sept. 28, the President forwarded the report of the committee to Congress for consideration by it and again urged that the people of Puerto Rico be permitted to elect their Governor and to exercise self-government to a greater degree than formerly.

SOCIAL SECURITY

On March 10, President Roosevelt sent to Congress recommendations for a greatly-expanded social security system and plans for a post-war transition of American economy to a peace footing. Both plans were prepared by the National Resources Planning Board. In transmitting the reports to Congress the President said it was his earnest hope that Congress would give full consideration to the problems pointed out in the two reports. Included in the post-war plans as summarized by the Planning Board were recommendations for demobilization of men from the armed forces and from war industries; plans with private enterprise and for improvement of urban transportation, energy, land, water, and public works; and plans for the development of health, nutrition, education, and for social security.

The social security recommendations embraced development of programs for security and public aid for inclusive protection against fear of old age, want, dependency, sickness, unemployment, and accident. The steps immediately called for included: enactment of permanent and temporary disability insurance; extension of coverage of old age and survivors' insurance and continuing efforts to provide for adequate minimum benefits; reorganization of the unemployment compensation laws to provide broadened coverage, more nearly adequate payments, and replacement of the present Federal-State system by a wholly Federal administrative organization and a single national fund; creation of an adequate general public assistance system through Federal financial aid for a general relief available to the states on an equalizing basis and accompanied by Federal standards; strengthening of the special public assistance programs to provide more adequately for those in need, and a redistribution of Federal aid to correspond to differences in needs and financial capacity among the states; and adequate measures to ensure the security of those serving in the armed forces and their families.

PLEA TO FARMERS

President Roosevelt, in a Farm Mobilization Day statement issued on Jan. 12, called on farmers for unprecedented production in 1943. He said that "all over the world, food from our country's farms is helping the United Nations to win this war." He characterized food as a weapon in total war as important in its way as guns or planes or tanks. This was true also of other farm products—long-staple cotton, oils and grains—all used in the manufacture of commodities needed in war. Because of the importance of food the President said that the United Nations were pooling their resources and using them where they would do the most good.

FARM SUBSIDIES

On Feb. 12, President Roosevelt recommended to the House of Representatives the appropriation of $100,000,000 to the Department of Agriculture for "incentive payments" to farmers in the production of certain commodities.

VETO OF ANTI-SUBSIDY LEGISLATION

On July 2 the President vetoed the bill to continue the Commodity Credit Corporation. While expressing his deep interest in the Corporation the President declared that the bill presented to him placed "new and unwarranted restrictions on the use of its funds and on the powers given to the Administration to stabilize the cost of living." He denounced the bill as it stood as "an inflation bill, a high cost of living bill, a food shortage bill," which would have a devastating effect upon our economy and our war effort. Congress failed to pass the bill over the President's veto but made provision for the extension of the Commodity Credit Corporation for six months.

FOOD PROGRAM

In a lengthy message to Congress on Nov. 1, President Roosevelt stressed the importance of food as a weapon of war and laid down the objectives of our food program. The first objective listed was the raising of enough and the right kinds of food to meet our needs. The second objective was the fair distribution of the food at reasonable prices. The President insisted that not only must food prices not go higher but that prices of foods which had gotten out of line must be actually reduced. He declared that the production and price objectives were not likely to be achieved unless the Government assisted with equalization payments or other aid. He held that, in order to induce farmers to increase production to meet the new and increased demands for food, and at the same time to keep the cost of food down, it would be necessary to increase the amount of government funds which were used for these purposes in 1943. When effectively used, in the view of the President, this program not only stabilized the cost of living but also resulted in great savings to the Government and to consumers. He urged Congress to give serious consideration to requests for money to carry these programs into effect.

CREATION OF OFFICE OF WAR MOBILIZATION

In an Executive Order under date of May 27, President Roosevelt created the Office of War Mobilization under the direction of Justice James F. Byrnes. The object of the order was to unify more clearly the work of the war agencies concerned with the production, procurement, and distribution of military and civilian supplies, materials and products. At the same time Judge Fred M. Vinson was appointed to succeed Justice Byrnes as Economic Stabilization Director.

OPPOSITION TO JOB RIDER

At his press conference on July 13, the President accused Congress of encroaching on the executive and judicial branches of the Government in providing in the Urgency Deficiency Appropriation Bill for the termination of the services of three government employees alleged by the House to have been associated with questionable organizations. He called the rider unconstitutional, unwise, and discriminatory, saying that, in his view, it amounted to a bill of attainder. The men involved were Dr. Robert Morss Lovett, Secretary of the Virgin Islands, and Goodwin B. Watson and William E. Dodd, Jr., of the Federal Communications Commission. The President asserted that, in his judgment, the rider was not binding on the executive and judicial branches of the Government.

WALLACE-JONES FEUD

Irritated by disregard of his previous instructions that disagreements between Federal Government agencies should not be publicly aired, President Roosevelt on July 16, reprimanded Vice President Wallace and Jesse Jones for statements issued to the press. As a further sign of his disapproval, the President issued an Executive Order relieving both the Vice-President and the Secretary of Commerce of any responsibilities or duties in the field of foreign economic warfare. He abolished the Board of Economic Warfare, of which Vice President Wallace had been chairman, and transferred its powers, functions, and duties to a new Office of Economic Warfare, under the directorship of Leo T. Crowley. Various agencies engaged in financing foreign purchases and imports were transferred from the Department of Commerce to the new Office of Economic Warfare.

POST-WAR EDUCATION

On Oct. 27, President Roosevelt transmitted to Congress the preliminary report of a committee of educators whom he had appointed to study the problem of education of our service men and women after the war. He said he believed the nation was morally obligated to provide such training and education and the necessary financial assistance for securing them. Vocational and educational opportunities for veterans should be of the widest range. The President recommended: (1) Federal financial assistance making it feasible for every man and woman who has served honorably for a minimum period in the armed forces since Sept. 16, 1940, to spend up to one calendar year in a school, college, a technical institution, or in actual training in industry; (2) Federal financial aid to a limited number of ex-service men and women, selected for their special aptitudes to carry on their education for periods of one, two, or three years. This government assistance, the President said, should include not only cost of instruction but a certain amount of money for maintenance.

RETURN TO CIVILIAN LIFE OF SERVICE PERSONNEL

In a message to Congress on Nov. 23, the President followed up his request of July 28 that plans be made for providing for the return to civilian life of service personnel. (See Progress of War and Plans for Peace in this review.) After reviewing the program of benefits for service men and for widows and dependents of those killed in action already enacted by Congress, the President said we must go much further. He recommended the provision of funds "for the payment of a uniform, reasonable mustering-out pay to all members of the armed forces upon their honorable discharge or transfer to inactive duty," the pay not to be in a lump sum but on a monthly installment basis; and unemployment allowances until members of the armed forces can reasonably be absorbed by private industry. Pointing out that persons in the merchant marine are not insured under state unemployment insurance laws, the President asked for the immediate passage of a Federal maritime unemployment insurance act. He also recommended that "Congress enact legislation to make it possible for members of the armed forces to obtain credit under the Federal Old-Age and Survivors' Insurance Law during their period of military service."

LABOR DISPUTES

In telegrams sent on Jan. 19 to 33 national and local officials of the United Mine Workers, President Roosevelt directed striking anthracite coal miners to return to work immediately. Refusal to comply with the order in 48 hours would result in the Government taking "necessary steps to protect the security of the nation against a strike which is doing serious injury to the war effort." This strike was precipitated by an increase in union dues but, as the strike continued, demands were made for an increase of two dollars per day in wages despite the fact that the strikers were covered by a contract which did not expire until April 30. The walk-out violated the labor-industry no-strike agreement and the National War Labor Board's directive of Jan. 15.

In March the President intervened in the deadlocked negotiations for a new wage agreement between the United Mine Workers and soft coal operators of the Appalachian region by asking both parties to continue their existing contracts beyond April 1 to permit a settlement without a strike and proposing that any wage adjustments ultimately agreed upon be made retroactive to April 1. He informed the operator groups and John L. Lewis, president of the miners, that their dispute must be settled in accordance with the requirements of the national emergency, the no-strike pledge of organized labor, and the wartime legislation and executive orders providing for wage and price stabilization.

GOVERNMENT OPERATION OF COAL MINES

A continuation of the strike of coal miners caused the President, on May 1, to order the mines taken over by the Government and operated under the direction of Secretary of the Interior Harold Ickes. In a radio broadcast on May 2, President Roosevelt made an appeal to the miners as patriotic citizens to return to work. Refusal to do so would "involve a gamble with the lives of American soldiers and sailors and the future security of our whole people." He pointed out that after the attack at Pearl Harbor, the American Federation of Labor, the Congress of Industrial Organizations, and the railroad brotherhoods gave positive assurance that there would be no strikes as long as the war lasted. He declared that, at the request of employers and of organized labor, the War Labor Board was set up for settling any disputes which could not be adjusted through collective bargaining. Conciliation and mediation having both been tried unsuccessfully in the coal strike, the case was certified to the War Labor Board, with whose fact-finding, however, the national officers of the United Mine Workers had declined to have anything to do. The President asserted that "the responsibility for the crisis that we now face rests squarely on these national officers of the United Mine Workers, and not on the Government of the United States."

On June 3, under his power as President and Commander-in-Chief, Mr. Roosevelt directed all idle miners to return to their work on Monday, June 7. In a statement issued on June 23, he characterized the action of the leaders of the United Mine Workers coal miners as intolerable, and said that it had "stirred up the anger and disapproval of the overwhelming mass of the American people." He added that he intended to ask Congress to raise the age limit for non-combat military service to 65 years in order that, if in the future there should be a threat of interruption of work in plants or mines owned or operated by the Government, the machinery would be available for prompt action.

ANTI-STRIKE BILL VETO

On June 25 the President vetoed the so-called war labor disputes bill. While expressing approval of many of the provisions of the bill, he denounced others. He objected to section eight, which provided for secret ballots by employees to decide whether to strike or not in cases of labor disputes. He held that this section might actually precipitate a strike, something which could not be sanctioned in war time, with or without notice. He also objected to section nine, which prohibited for the period of the war political contributions by labor organizations, holding that this section had no relevancy to a bill prohibiting strikes during war in plants operated by the Government.

RESUMPTION OF GOVERNMENT CONTROL OF MINES

The return of the coal mines to their operators and a renewal of the strike led, on Nov. 2, to another Executive Order by which President Roosevelt again directed Secretary Ickes to take possession of the mines and operate them for the Government. He authorized the Secretary to enter into collective bargaining contracts with representatives of the miners to govern the terms and conditions of employment during the period of Government operation. Such contracts, the President said, would be made subject to the approval of the War Labor Board in accordance with the provision of the War Labor Disputes Act. He called upon every miner to return immediately to the mines.

THREATENED TRANSPORTATION STRIKE

Intervening in the operating railroaders' dispute, President Roosevelt on Dec. 20, appealed to the chiefs of the five transportation brotherhoods to settle their dispute with the railroad managements and avert a country-wide railroad strike threatened for Dec. 30. The appeal followed consultations which the President had held with these leaders on the previous day. He divided his blame for the present situation about evenly between employers and employees. He threatened seizure of the railroads if the employers did not do their share to end the dispute, while he told the employees he would castigate them over a national radio hook-up if they went on strike.

To add to the President's difficulties, on Dec. 21 spokesmen for more than 1,000,000 non-operating railway employees announced that they would order their men on strike on Dec. 30. They said that for more than 15 months the employees had patiently sought to secure reasonable and long overdue increases in wages but had been unable to effect an adjustment.

GOVERNMENT CONTROL OF RAILROADS

Rejection by three of the five operating brotherhoods of President Roosevelt's offer to arbitrate the rail wage controversy led him to order Attorney General Francis Biddle to draft the necessary legal papers preparatory to the Government's taking over of the railroads. In making his offer of arbitration the President said: "The war can not wait and I can not wait. American lives and American victory are at stake."

On Dec. 27 the War Department took control of the nation's railroads under orders issued by President Roosevelt. In a statement accompanying his executive order authorizing Secretary of War Henry L. Stimson's seizure of the lines, the President asserted that he could not wait "until the last moment to take action to see that the supplies to our fighting men are not interrupted." After stating that the Government would expect every railroad man to continue at his post of duty, President Roosevelt declared: "The major military offensives now planned must not be delayed by the interruption of vital transportation facilities. If any employees of the railroads now strike, they will be striking against the Government of the United States."

The executive order authorized Secretary Stimson to keep control of the railroad lines only until he determined that Federal operation was no longer required to prevent interruption of transportation service.

DISPUTE IN STEEL PLANTS

On Dec. 26 President Roosevelt appealed to steel companies and thousands of laborers who had refused to work because of the expiration of their collective bargaining agreements. He requested both sides to resolve their differences with the understanding that, if any new agreements included wage adjustments, these would be computed and applied retroactively. The President stated that the disputes must be settled under the national no-strike agreement by means of collective bargaining, conciliation, and final determination, if necessary, by the War Labor Board. He warned, however, that pay adjustments must conform with the Economic Stabilization Act and subsequent executive orders with which the act is implemented.

On Dec. 27 the War Labor Board voted to guarantee that wage increases which might be negotiated in the coming months between the C.I.O. steel workers and the steel companies would be retroactive to the expiration date of the old contracts. Philip Murray, head of the steel union, then urged all steel workers to return to work.

END OF NEW DEAL SLOGAN

After his press conference on Dec. 21, President Roosevelt told a visiting correspondent that he felt the slogan "New Deal" was out of date as a description of Administration aims. He suggested that it be changed to something like "Win the War." Republican critics led by Harrison E. Spangler, chairman of the Republican National Committee, immediately claimed that the President was trying to drop the "New Deal" slogan because it had become unpopular and a political handicap.

Being questioned by reporters at his press conference a week later, the President extolled New Deal achievements but said that the New Deal measures were designed for 1933 and that there would have to be a new program adapted to the times. In allegorical fashion he narrated the story of a sick patient, called the United States who, in 1932, was suffering from a grave internal disorder. "Dr. New Deal" was called and after a process of ten years, the illness was remedied. However, the President continued, two years ago, on Dec. 7, the patient had a bad accident in which he suffered several broken bones. "Old Dr. New Deal" didn't know anything about broken legs and arms, the President said, so he got his partner, "Dr. Win the War," who was an orthopedic surgeon, to take care of the patient. As a result, the patient was back on his feet but would not be wholly well until he won the war. When a reporter asked if the story did not add up to a fourth term declaration, the President characterized the enquiry as "picayune" and refused to make a more definite reply.

NATIONAL PERSONALITIES

By John A. Perkins
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WENDELL L. WILLKIE

Although several men have been prominently mentioned as Republican standard bearers in 1944, attention during 1943 has been centered mainly on one man, Wendell Willkie, who, since his defeat three years ago, has endeavored to lead the party as a "loyal opposition" in the direction of "liberal objectives" and "internationalism."

He has repeatedly warned old-line opportunistic leaders that the party can not win if it merely attempts to coalesce under its banner various "negative" groups. In St. Louis, Oct. 15, where he went to answer a questionnaire calculated by Missouri Republicans to embarrass him, he set forth a minimum domestic program, parts of which he had propounded earlier and the bulk of which he reiterated on several occasions later. Mr. Willkie emphasized five points: modification of expenditures and income taxes "so the ordinary fellow may have enough 'seed corn' to plant the 'corn of tomorrow' "; a regulatory system that will not dam the flow of capital but guarantee competition within the true meaning of private enterprise; substitution of a program of expanding markets for farm products for the present doctrine of scarcity; joint effort by industry and government to plan ahead for enlargement of our industrial capacity and public improvements to end violent fluctuations in durable goods; and adoption of a forward-looking labor policy instead of the Smith-Connally Act, a measure which he condemned. At a closed meeting with new Republican Congressmen the 1940 Republican candidate endeavored to overcome the intra-party criticism that his public views, especially on foreign policy, were hardly more than a carbon copy of those of President Roosevelt.

Wendell Willkie did call upon Republicans to lead in the renewal of the Reciprocal Trade Act, Lend-Lease, and continuation of the Good Neighbor Policy, yet, he declared on Oct. 3 that, despite close reading of all the speeches and public remarks of President Roosevelt and Secretary Hull, he did not know what the Administration's foreign policy was. His own plea for unity and understanding among all peoples of the globe was voiced in his phenomenal best seller, *One World,* a travelogue of his 1942 world tour. He emphasized the interdependence of the peoples of all continents, the importance of strengthening the ties between the United Nations now, and the need of following through in a definite, continuing United Nations organization for peace, justice, and progress. Mr. Willkie heralded the Moscow Agreement as "a big step forward," but candidly warned that it provided only the foundation on which the structure of a lasting peace must be built. At the Herald Tribune Forum he declared that there must be "a democratization of the relationship between the four great powers and their smaller allies—some of them not so small—and a liberalizing of the relationship of colonial powers to their colonies." After Alf M. Landon, the G.O.P.'s 1936 nominee and present spearhead of the "stop-Willkie" movement which came to life late in the year, made equivocating speeches on the Moscow agreement, Wendell Willkie declared that if the former's views represent the thinking in the Republican party "then certainly someone other than myself should lead the party in 1944."

When Republican hopes for success in the forthcoming Presidential election were bolstered by their victories in November, 1943, the Willkie candidacy which seemed probable in October met a newly organized opposition through the encouragement of favorite son candidates and a smear campaign charging "irregularities" in Willkie's nomination in 1940. Both movements were seemingly fostered by party leaders who resented his stampeding the 1940 convention or were pre-war isolationists whom his views had offended. As a counterpoise to them Mr. Willkie has been traveling extensively and contends that he knows more down-to-the-precinct Republican workers than any other man in the party and that when convention time rolls around, he will "know twice as many" as anyone else.

HENRY A. WALLACE

Vice President Wallace, rising above the traditional obscurity of his office, attracted considerable political attention in 1943, but his chances for renomination steadily declined. By attacking cartels and trusts, sighting the century of the common man and a vague world brotherhood, and fighting with R.F.C. Chairman Jesse Jones, he emerged as the rallying point of the liberal forces within the administration, but President Roosevelt's increasing reliance upon the more conservative elements rather than doctrinaire New Dealers presages that Henry Wallace will not be his heir apparent in 1944.

Disregarding the President's ban on public airing of administrative disputes, the Vice President called Mr. Jones a "hamstringing bureaucratic obstructionist," charging him with failure to build up government stockpiles and then interfering when the Wallace-directed Office of Economic Warfare undertook to do the job. The ensuing quarrel was halted when Mr. Roosevelt abolished the O.E.W., stating that he did not have time in midst of war to determine where the truth lay, and wrote the adversaries "that the controversy and acrimonious debate which has been carried on between you . . . makes it necessary to transfer these matters to other hands."

Despite this reprimand Mr. Wallace indicated in Detroit, July 24, that there was no personal rift in his relations with the President, and he vigorously assailed powerful money groups, "American Fascists," who seek to destroy Mr. Roosevelt's domestic achievements of the past ten years by capitalizing on his preoccupation with the war. Speaking in the same vein before the C.I.O. convention, Nov. 3, he abhorred a "balanced dollar budget" if it necessitated destruction of "sound (New Deal) agencies of the present government which can absorb and cushion the shock of returning soldier millions." Soon after assailing Standard Oil as an international cartel which inhibited war preparations, the Vice President in Dallas on Oct. 20, decried financial exploitation of railroads, their discriminatory rates "keeping the South and West in a colonial status," and their monopolistic condition. On several occasions he advocated for postwar America a leading role for private enterprise, increased production for full employment, and broadening of the middle class.

Americanism in its deepest meaning stands for "the freedom and the welfare and the brotherhood of the plain people of the world, wherever they are," the Vice President told 1,000,000 New Yorkers on "I am an American Day," May 17. In this, his first speech after returning from a goodwill tour of Latin America, he advocated extensive economic development of the countries to the South. Later, defending himself against "those twisters of fact who shriek that your Vice-President is a wild-eyed dreamer trying to set up T.V.A.'s on the Danube and deliver a bottle of milk to every Hottentot," he referred to the report of the N.A.M. in support of his theory that higher production elsewhere will not reduce living standards in the United States. Unfortunately for Mr. Wallace's political future, many of his ideas, sound as they may be, are without popular appeal because first, the country is tending to the right and he persists toward the left, and secondly, as the President has said, Henry lacks political "it."

THOMAS E. DEWEY

Mr. Dewey, first Republican Governor of New York in twenty years, was steadily boomed during 1943 for the Republican presidential nomination despite almost monthly reiteration of a statement made Feb. 25 that he "is not and will not become a candidate for any other nomination during his gubernatorial term." Nevertheless, interest of party workers in him remains constant because the phraseology of his abnegation leaves the door open to a "draft" movement, and his program as Governor seems calculated to shape him in the unmistakable form of a presidential nominee.

During his first year as Chief Executive of the Empire State, Mr. Dewey adroitly controlled the legislative session from start to finish, cleverly selected underlings with recognized capabilities and a zeal for public service, and reduced taxes without affecting a mounting treasury surplus. Departmental reorganizations for greater efficiency have been proceeding slowly but promise to keep him in the limelight as will his developing investigations of the State Legislature and of corruption in Democratic Albany County.

The 41-year-old Republican Governor found opportunity to put himself on record on large questions of public policy. At the Governors' Conference at Columbus he linked the forage shortage on New York State dairy farms to the O.P.A. policy which established disproportionate corn and hog prices, and he scored the "incredible deficiencies of the national government in its ten-year campaign to restrict food production." Before the Federation of Jewish Charities on Oct. 4, Mr. Dewey asserted that social advances of the future must be financed out of the savings achieved by better public management. He paid tribute to labor's contribution to victory on the production front at the New York State Federation of Labor Convention on Aug. 23, when he invited organized labor to join an effort "to make certain that the regimented economy of war," necessary to victory, would be succeeded by "a peacetime economy of freedom under law." At the Mackinac Island meeting of the Republican Post-War Advisory Council, Mr. Dewey stole the headlines with his forthright advocacy of a post-war Anglo-American military alliance.

In October the New York Chief Executive took the stump to promote the election of Joe R. Hanley to the Lieutenant Governorship, whose landslide victory was considered an endorsement of Governor Dewey's good state administration and a mark of the latter's strength as a Presidential candidate. Moreover, should the Republican prospects look ripe for 1944, the circumspect Mr. Dewey could leave Albany without the added embarrassment of abandoning the executive branch to the Democrats. Alfred M. Landon declared on Dec. 5, after visiting party leaders in many states, that there was a growing conviction that Mr. Dewey is the man who can win in '44.

CORDELL HULL

In 1943, seventy-two-year-old Secretary of State Hull experienced more public criticism than in any other of his 40 years of public service only to emerge in the eleventh month something of a public hero as a result of the Moscow Conference.

Mr. Hull's physical strength apparently limited his activities the first six months of the year to fighting for the renewal of the Reciprocal Trade Agreements Act. In successfully combating the threat to what is generally regarded as the chief feature of his decade in office, Mr. Hull admonished: "Repudiation of the trade agreements program . . . would be taken as a clear indication that this country which, in war, is bearing its full share of responsibility, will not do so in peace." Public opinion as manifest in the Fulbright Resolution, the Mackinac Charter and like declarations seemed almost to outdistance the Secretary's leadership. In response to rising public pressure for information on what plans the State Department was making to avoid a third world war, Mr. Hull on Sept. 12, made the first of a projected series of radio addresses on U. S. foreign policy. His speech was so completely devoted to general principles that it was widely criticized as platitudinous.

The Secretary of State responded sharply during the summer to two criticisms of his Department. He hotly disavowed allegations of Budget Bureau experts that disorganization and inefficiency existed within his agency. He branded as "monstrous and diabolical falsehoods" charges that he and other officials in the State Department were opposed to the Soviet Government and actually wished the Soviet Union to be bled white.

Although frequent rumors of disagreement between top officials within the State Department were continually denied by Mr. Hull, the first week in September Under Secretary Welles resigned and a large section of the press immediately championed him as having been a liberal influence and the outstanding friend within the Department of Latin America and Russia. When the President supported the Secretary instead of his capable and longtime friend, Under Secretary Welles, he was accused of appeasing Southern Democrats to further his fourth term ambitions; at any rate, Mr. Hull "got his man."

In November, the elderly Secretary flew the 26,000-mile round trip to the tripartite Moscow Conference where his activity greatly overshadowed his limited participation in the August Quebec Conference. He returned from Russia amid triumph and cheers, for he had played a leading role in laying the foundations for a durable peace and was credited by British Foreign Secretary Eden with fathering the Moscow Declarations' "security clause." President Roosevelt personally welcomed him at the airport, and Congress invited him to make an almost unprecedented personal report on his trip before a joint session. Upon this last occasion the Secretary of State emphasized post-war organization, declaring: "By the procedure of cooperation with other nations likewise intent upon security, we can and will remain masters of our own fate."

JAMES F. BYRNES

Throughout 1943 former Senator and Supreme Court Justice Byrnes carried such tremendous responsibilities, first as Director of Economic Stabilization and, since June, as Director of War Mobilization, that he has been popularly designated as "deputy president." Engrossed in the grand strategy of the war, President Roosevelt shifted to the shoulders of this former South Carolina politician the problems of the whole domestic wartime front. His job has been to coordinate and bring about closer cooperation among the various Washington czars and between Congress and these same officials.

In June when he assumed the directorship of the Office of War Mobilization, success in this undertaking seemed promising for several reasons: first, the authority delegated to him—unlike some delegations that the President has made during the war—seemed completely adequate; second, it was thought that no one else in the country enjoyed so fully the confidence of the President and at the same time of Congress; third, he consistently disclaimed any political ambitions. Mr. Byrnes has carried on his work quietly and with a small staff, and his success is difficult to evaluate. It is to be noted that Congress, despite his efforts, overrode the President's veto of the Smith-Connally anti-strike bill and failed to pass the food subsidy program advocated by the White House. His efforts as a peacemaker between Vice-President Wallace and Commerce Secretary Jones were of little avail. Mr. Byrnes in both his positions endeavored, with his subordinates, to carry out the President's "hold-the-line" order. In so far as this has not been successful it may be owing to the lack of strong, popular, nation-wide support capable of counteracting selfish groups. On the second anniversary of Pearl Harbor the Director broadcast a fighting demand for the passage of subsidies on food and lashed out against pressure groups which failed to comprehend the "supreme importance of holding the line against inflation."

In August the Director condemned "noisy minorities" engaged in destructive criticism and called for an adjournment of political discussion until the 1944 campaign. When he was suggested as a likely candidate for the Vice-Presidency by those Democrats and New Dealers who feel the South must be represented on the ticket by a strong, popular man if the party is to hold that section in line and achieve victory in 1944, Mr. Byrnes endeavored to squelch the idea. He asked simply to be left alone to do his part in getting on with the war effort declaring: "From the time I left the Senate for the Court I haven't given one moment's thought to politics. I have no ambition to be Vice-President."

JOHN W. BRICKER

John W. Bricker, 49-year-old third-term Governor of Ohio, gave his hat the long-expected toss into the 1944 political ring when he announced Nov. 10 that he would enter the Ohio Presidential preference primaries. In a formal statement the candidate, who is reputedly backed by powerful financial interests, declared "confusion and distrust reign throughout the land" and the country needs "a change of political philosophy." He proposed that the next president should serve only one term and that a constitutional amendment should be submitted to the people limiting a president's tenure. The first proposal might be interpreted as a bid for support of Republican delegates whose first choice—Dewey, Stassen, or MacArthur—may not be available in 1944; the second suggestion might appeal to Republicans and Democrats alike within the country who fear that an ambitious executive, by adroit use of executive patronage, will perpetuate himself in office.

A national committee to draft Governor Bricker and General MacArthur for the nomination (the convention is to decide the one most available) was formed by Republicans "who do not see eye to eye with Wendell L. Willkie." This group was undoubtedly attracted to the capable Ohio Governor by his somewhat equivocal statements on post-war international affairs and his party regularity. On March 10 he favored international "cooperation without commitments" and a policy of "live and let live and help live." On the question of collective security he was vague and shied away from suggestions that his advocacy of greater world trade would require a modification of traditional Republican tariffs. At the meeting of the Republican Post-War Advisory Council in August, Governor Bricker promised that, if nominated, he would not attempt to substitute his own views for policies laid down by the Republican party. However, on Sept. 17, in Philadelphia, he did venture to suggest that "Our foreign policy should be based upon the absolute necessity for the preservation of our identity as a nation and on our traditional freedom of action at all times."

On several occasions during the year Governor Bricker berated the New Deal for building up a tremendous and arrogant bureaucracy, breaking down the independence of the state and local governments, and increasing executive dominance over the legislative branch. The cautious Ohioan's expertly ambiguous statements on momentous issues disgruntled more forthright Republicans, notably William Allen White, who damned him with faint praise as "an honest Harding."

HAROLD L. ICKES

During 1943 Secretary Ickes was concerned not only with managing the Department of the Interior but also with the natural petroleum shortage and the strike-stimulated coal shortage. An executive order of May 5 assigned him powers over the production and distribution of coal on a par with those he exercised over petroleum by virtue of an earlier directive.

The first of the year's four coal crises put Mr. Ickes in charge when the Government took custody of coal properties by presidential order. Failure of the mine operators and John L. Lewis to negotiate a contract for the miners with War Labor Board approval necessitated Secretary Ickes making an agreement with the United Mine chief on Nov. 5. This arrangement brought forth the greatest production of coal in 16 years, although the Secretary was blamed in scare headlines for increasing the miners' earnings, thereby jeopardizing wage stabilization.

On behalf of his subordinates the Secretary of the Interior appeared twice before the Insular Affairs Committee of the House: first, to object to a bill ousting Governor Tugwell which he termed "nothing more or less than an endeavor to get Congress to join an internal political fight in Puerto Rico"; later to defend Dr. Robert M. Lovett, Secretary of the Virgin Islands, who had been removed by a rider to an appropriation bill on the accusation of a subcommittee that he had associated with communist front organizations. Mr. Ickes declared the rider "un-American and unconstitutional" and added at one point that he was "tired to death of wasting public funds and public time in appearing before useless and fruitless committees of investigation." The flinty Interior Secretary also struck out against "the Hearst press," and particularly the "Patterson-McCormick newspaper Axis," Nov. 9, before a capacity audience gathered in Madison Square Garden to celebrate ten years of diplomatic relations between the United States and the Soviet Union. He condemned these newspapers along with other forces for "deliberately fostering ill will toward Russia" when the fate of civilization depends upon our maintaining good relations with her.

At a luncheon preview, April 18, of his latest book, *The Autobiography of a Curmudgeon,* Mr. Ickes revealed himself as a man who would rather write a saga than be President. He hastened to explain, however, that he had no intention of resigning from the cabinet to devote his "declining years to literature."

JOHN L. LEWIS

After a protracted but successful fight for wage increases for his 530,000 coal miners, Mr. Lewis emerged again as the strongest, toughest labor leader in the nation. His prestige will rise still higher if his pending petition for reinstatement of the United Mine Workers in the American Federation of Labor receives favorable action.

After Pearl Harbor Mr. Lewis along with other unionists agreed to the no-strike policy and the creation of the War Labor Board as arbiter of labor disputes. Nevertheless, in 1943 his miners struck several times and he persistently refused to present his case to the WLB which he repudiated as "malignant" and "prejudiced." While the WLB weighed the merit of the miners' demand for a two-dollar-a-day wage increase and the end of the existing contract with operators approached, Mr. Lewis declared "the mine workers will not trespass upon the properties of the coal operators in the absence of a contract." Immediately the President gave the miners an ultimatum that the Government would take over the mines if they were not at work on May 1. Despite the taking over of the mines, the workers walked out, and the Chief Executive appealed by radio to their patriotism to return to work May 3, but his plea was voiced in a vacuum caused by John L. Lewis' order to resume work on May 4 just 20 minutes before the broadcast. After conferences between Secretary Ickes and Lewis, a truce was declared which was extended finally to Oct. 31. Meanwhile, public opinion became aroused, and Congress passed an Anti-Strike law, but Mr. Lewis stubbornly maintained with enough truth to embarrass the Administration that ceiling prices were meaningless and the Little Steel Formula was arbitrary.

When the Nov. 1 deadline approached, strikes broke out again. The President ordered "every miner to return to work without a day's delay" and granted Mr. Ickes authority to make an agreement with the U.M.W. Work was not resumed until Nov. 3, when Mr. Lewis ordered workers back into the mines "at the earliest possible moment" because "the government of the United States and the Secretary of the Interior have today executed a satisfactory wage agreement" with the union. This agreement which achieved a substantial increase for the miners was subsequently approved by the WLB. John L. Lewis had achieved an almost complete victory and had considerably weakened the position of the WLB which may be inundated by new wage demands from other union leaders.

The leader of the U.M.W. has been seeking since May 19 reaffiliation of his union with the A.F.L. He was blocked in August by members of the Executive Council of the Federation who did not like Mr. Lewis' political ambitions or his grab-bag District 50, which raids and overlaps existing affiliates, but readmission was again under consideration by a special A.F.L. committee in December. By rejoining the A.F.L., he hopes to swing the Federation toward the next Republican candidate for the presidency and to use his strength within the G.O.P. to fight the internationally minded element.

FRANK KNOX

Doughty Republican, Frank Knox, continued his wartime service as an important cog in the Democratic administration and before the end of 1943 was Secretary of the biggest navy the world has ever seen. At Springfield, Ill., on Lincoln's birthday, he reaffirmed his Republicanism and, at the same time, likened the political difficulties of Roosevelt to those of the Emancipator in that both men sought larger purposes than political expediency. To the end that our foreign policy may have continuity and be raised above partisan politics, Mr. Knox advocated on Oct. 27, that "a substantially identical declaration on international policy be made in the platforms of both parties at their national conventions."

Upon his return from a late-summer trip to England, the catalystic Navy Secretary urged that Americans and British "forget differences" and come to "good understanding and complete cooperation." He chided the people in both countries for thinking of the war in terms of the theater nearest them instead of considering the war as a global conflict. World organization should emulate present Anglo-American cooperation, Knox told the English Speaking Union in Chicago in December after citing the many examples in our history to refute that "stupid, unpatriotic falsehood that America always comes out on the short end of any transactions with the British."

As a conscientious Secretary of the Navy, he advocated a permanent chain of Pacific bases in return for lend-lease aid and defended as a fuel necessity the Navy-Standard Oil contract for operation and conservation of the Elk Hills oil field in California. That our many fleets are at last ready for a major effort was indicated by his booming standing order on Navy Day: "To the men of the Fleet I say with confidence and with pride: seek out the enemy—and destroy him! Today, tomorrow, and tomorrow we must attack."

HARRY F. BYRD

Senator Byrd of Virginia, leader of the conservative Southern Democrats, continued in his role in 1943 as the most outspoken critic of the President within his own party. His opposition was of the kind which offered remedies along with criticism and was recommended to Republican presidential aspirants as something to be emulated when attacking the Administration's domestic policies. Using the Joint Committee on Reduction of Non-Essential Federal Expenditures, of which he is chairman, as his sounding board, Senator Byrd boomed against excessive expansion of the Federal payroll, failure to reduce the mileage and number of cars used by the Federal Government, and the administrative creation of government corporations not subject to General Accounting Office audit. On Nov. 17, he described as alarming the increases in land acquisition by the Federal Government to the point where it now owns one-fifth of the area of the United States. He attacked the Roosevelt Administration on May 14 for its handling of the labor problem, extravagance in spending, and the ineptness of a growing bureaucracy. "In the labor difficulties which have retarded our military production . . . the Administration is reaping the reward of its own weak and indecisive labor policies." He prophetically forecast that the future control of inflation is linked inseparably with the ultimate decision in the Lewis case concerning the wages of coal miners. Six months later, and three coal crises, Senator Byrd again berated Administration leaders for "coddling" John L. Lewis and demanded that he be prosecuted under the Smith-Connally Act for instigating strikes.

Should the South break with the New Deal, Mr. Byrd might be the candidate of his section for President. That such a break has been contemplated was clear in the Senate debates on the soldier vote issue in which the Virginia Senator led the attack on New Deal Senator Guffey who had accused Southern members of entering into "an unholy alliance" with Northern Republicans to defeat the Administration's Service Men's Absentee Voting bill. Senator Byrd has also been proposed as the candidate of a new coalition party composed of Republicans and disconsolate Democrats but with present high confidence in the G.O.P. ranks such a combination seems improbable.

ERIC A. JOHNSTON

Mr. Johnston, 46-year-old Spokane industrialist, who overcame conservative opposition to become the "progressive and aggressive" President of the United States Chamber of Commerce, was the exponent of "Capitalism" at home and abroad in 1943. As spokesman for 600,000 American business men he has advocated more cooperation with Government and labor.

Although the previous heads of the Chamber had not visited the White House in five years, Mr. Johnston had several conferences with President Roosevelt on the subject of improving the economic system after the war. The Chief Executive appointed him a member of the Committee on Deferment of Federal Employees. Between Feb. 13 and March 18 he visited South America as Chairman of the State Department-sponsored Inter-American Development Commission, where he promoted the idea that our factories, technicians, and capital should be employed after the war for the purpose of building greater industrial countries to the south and increasing inter-American trade. Upon his return he declared that "just as the last century was a British century, the next can be an American century, if we send our money, management, and technical skill down the broad avenues of exploration and not the blind alleys of exploitation." In August he visited England to confer with officials and business men on wartime and post-war economic problems and while there, he debated the merits of private enterprise and planned production with Harold J. Laski and described the United States as opposed to centralization, bureaucracy, imperialism, and monopoly.

"I am for capitalism," wrote Mr. Johnston in the *Readers' Digest* and he condemned business men for seeking refuge in "nebulous phrases" like the "American way of life"; labor leaders do not go along with the idea that "capitalism is dead." On Nov. 19, Mr. Johnston called for a "fourfold unity" of management, labor, agriculture, and government for the building of a greater middle class society. Although Mr. Laski described the President of the Chamber of Commerce as personally "delightful" but "out of date" and likened his ideas to Woodrow Wilson's "new freedom" of 30 years ago, it must be recognized that these qualities make him a potential political personality in America when the pendulum swings toward the Republican party. However, when Mr. Johnston was suggested for the presidency by the national chairman of the now defunct Republican Post-War Policy Association in October, he responded: "I am not a candidate for any public office. I do not want to live at either end of Pennsylvania Avenue. I prefer to live at either end of Main Street of any good American town."

MRS. FRANKLIN D. ROOSEVELT

While continuing her interest in knotty social and racial problems, particularly in their relationship to the post-war world, Mrs. Roosevelt again traveled widely as an unofficial goodwill representative of the Administration. Inspections of war plants, Red Cross work, and hospitals took her almost everywhere within the United States, and in early fall she went abroad to visit the South Pacific battlefronts.

An equal chance for men all over the world must mean an equal chance for all men here, the First Lady contended in an article written for the July issue of an organ of the Student Assembly. She also appealed for equality before the law, equality of education, equality in the economic field, and equality of expression. When accused of fomenting the Detroit race riots because of her goodwill attitude toward Negroes, the wife of the President replied that there must be both white and colored people of goodwill and commonsense to prevent race riots. Although she had urged coal miners in April to give up strikes in wartime, she later deplored the conditions in the coal mining areas indicating the miners were entitled to some concessions in light of their earlier deprivations. She exhorted American women on March 29 to match the war effort of their sex in the other United Nations and six months later advised members of the Women's Auxiliaries of the C.I.O. "to count as a citizen and be reckoned with as a political entity."

Enthusiastic receptions greeted Mrs. Roosevelt during her 23,145-mile airplane tour of the South Pacific battlefront in which she performed the threefold task of inspecting the work of the women of New Zealand and Australia, surveying the activities of the Red Cross whose uniform she wore, and heeding the President's request "to see as many of the men as you can." Leaving on Aug. 17, Mrs. Roosevelt made 17 island stops including Guadalcanal, and spent eight days in New Zealand and 11 in Australia before returning to San Francisco on Sept. 23. She talked with thousands of men, visited most of the military hospitals, ate with troops in mess halls, and rode with them in jeeps; political opponents of the administration were worried lest she unduly influence the soldier vote. Everywhere our men impressed her with their indomitable spirit and resourcefulness, their strong feeling against strikes and absenteeism at home, and their keen interest in whether post-war plans included educational and job opportunities for them.

HERBERT C. HOOVER

Although it is a decade since ex-President Hoover departed from the White House, he still speaks authoritatively on public questions. In 1943 he was principally concerned with the problem of food, a topic with which he is thoroughly familiar because of his experience as food administrator during and after the last war. To clear up at home "this muddle of uncontrolled food prices, local famines, profiteering, black markets and stifled farm production," he urged: a single responsible administrator with authority over food production and distribution; more manpower and machinery with a million more acres planted; and war committees for the processing and distributing trades with power to direct the flow of food to the right places. For Europe, he recommended to the Senate's Foreign Relations Committee "a systematic and definite relief" plan for "stricken and hungry countries." When he suggested that the size of the army be modified in 1943 "to avoid the fatal error of overstrain on the home front," New Dealers charged that had his judgment in a similar instance been followed in 1917, Germany might have won the First World War. Mr. Hoover and the Republican National Committee both replied that the "slur" was based on the rearrangement of dates on a private memorandum, thus misrepresenting his point of view.

The ex-President also gave counsel on post-war problems. He recommended, Oct. 29, before the Chicago Club, that this country have a time table of three to five years by which it can measure progress made toward restoring free enterprise after the war. He advocated a board of managers who would act as trustees for the United Nations in arranging the peace, thereby eliminating the usual armistice and general peace conference. Eventually they would be replaced by "some sort of world institution." As to the Moscow pact, "I, naturally, approve it," he stated in mid-December, "in as much as it adopts the transition period and other principles which I have advocated for the past eighteen months." Over a nation-wide network six weeks earlier he had asserted that nationalism is the "most powerful of all forces in international relations" and that planners of peace must accept the idea that nations will maintain "their full independence and full sovereignty" after the war.

HAROLD E. STASSEN

Although Lieut.-Commander Stassen resigned as Governor of Minnesota when ordered to active duty April 29, 1943, he can not entirely forsake politics even if he would, for his record in public office and party councils makes him a potential Republican presidential candidate. His third inaugural address on Jan. 7, 1943 was hailed as the first comprehensive platform of a potential nominee. He set forth his policy on major public questions as follows: better governmental administration, humanitarian assistance to those in need, thriftiness and elimination of waste, fairness to all economic groups but domination by none, solicitude for the farmers, friendliness but firmness with labor, and encouragement for business. In the pursuit of these objectives in governing Minnesota he confidently asserted "we are credited with making some progress."

In advocating post-war international organization, Governor Stassen was the most outspoken and specific of the leaders in either major party. Before the Foreign Policy Association in Minneapolis he opined: "Perhaps the greatest present deterrent to increasing world cooperation is a tendency on the part of many people to admit its desirability, to acknowledge the correctness of general statements on the subject, but to say it is impossible to work out." He offered, therefore, a tentative "Stassen plan" which called for a United Nations Parliament of one house that would in turn choose a chairman and council to be responsible for: temporary post-war government of Axis territory, administration of great international airports and airways of the future, administration of gateways of the seven seas, and fostering increased trade and literacy.

"This war will be fought by young men of my age, and I want to be with them," the Minnesota chief executive declared upon announcing his intention to enter the Navy, and he later added significantly enough: "I intend to stay there until the war is over." When interviewed on his entry to the Naval Training School at Fort Schuyler, he refused to discuss politics, and his bright political future seemed definitely interrupted although by no means dimmed. Before he had faded much from the public eye and while he was serving in the southwest Pacific as flag secretary to Admiral W. F. Halsey, his friends entered him, on Oct. 7, in the Nebraska presidential primary scheduled for next April.

CLARE BOOTHE LUCE

Attractive Mrs. Luce, wife of publisher Henry Luce, and erstwhile playwright and foreign correspondent, enjoyed unusual public attention in 1943 as a first-term Republican Congresswoman from Connecticut. Her chief interest has been in foreign policy, although her guileless request for a place on the Foreign Affairs Committee was not honored because of her decided lack of seniority. When in her initial speech in the House she condemned the Vice-President's global thinking as "globaloney," the enemies of post-war planning seized upon the word to her embarrassment. Some months later in a magazine symposium of political leaders she virtually echoed Henry Wallace: "We know that if one man starves in Hankow, another goes hungry in Pittsburgh." The Connecticut Congresswoman declared on June 25 that this country has no foreign policy. She implied that while isolationists believed we needed no foreign policy, interventionists simply adopted British foreign policy. She advocated a military alliance with the British Commonwealth as a first step in the development of a "clear, honest, all-American foreign policy."

The domestic policies of the Roosevelt administration have not entirely escaped her attention. At Appleton, Wis. she keynoted the Republican State convention June 27 with a speech declared to be "a model of partisan politics." In a 1,200-word reply to an invitation to a White House social gathering for new legislators, she wrote the President concerning the two-party system in wartime, food shortages, bureaucracy, and the shortcomings of the WPB. In voting against the Smith-Connally anti-strike bill, the Ruml plan, and continuance of the Dies committee she exhibited considerable independence, although, as yet, it would be decidedly difficult to catalogue the political views of Clare Boothe Luce.

THE YEAR IN CONGRESS

By Mary Sumner Benson
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GENERAL

The first session of the Seventy-Eighth Congress convened on Jan. 6 and adjourned on Dec. 21, 1943. There was, however, a summer recess from July 8 to Sept. 14, the longest since 1938, so that the number of working days was much less than in the sessions of the Seventy-Seventh Congress. The Republicans made a marked gain in the election of November, 1942. When the "Victory" Congress, as it was then called, opened in January, there were 222 Democrats and 208 Republicans in the House. By the end of the year, five deaths had somewhat altered the alignment. There were 218 Democrats, 208 Republicans, two Progressives, one Farmer-Labor, one American Labor, and five vacancies, which left the Democrats an exceedingly narrow margin easily upset by any coalition. In the Senate the number of Republicans also increased. There were 58 Democrats, 37 Republicans, and one Progressive at the close of the session.

The comparative balance of the two parties, together with a restiveness on the part of certain Democratic groups, led to intense conflicts over taxation, food price subsidies, and other domestic issues. There was less controversy over matters relating directly to the conduct of the war, but the "father draft" question occupied much time, requests for war funds were closely scrutinized, and the Senate adjourned without final action on a group of military promotions.

Conflict with the Administration was more apparent than for some years. This was sometimes shown in riders attached to important bills. The executive order, limiting salaries to $25,000 after taxation, was repealed in this fashion and passed without the President's signature. A rider was also used to withhold salaries from certain government officials. President Roosevelt signed this under protest. The National Resources Planning Board and the National Youth Administration were eliminated in appropriation measures. Funds for the Office of Price Administration and for the domestic activities of the Office of War Administration were cut considerably from the amounts requested. The President's nomination of Edward J. Flynn as minister to Australia was withdrawn in the face of probable unfavorable action by the Senate. The Smith-Connally anti-strike measure was vetoed by the President, but the veto was immediately overridden. This was the first bill passed over the President's veto since 1940.

Much of the year was devoted to the problem of taxation. The question of a bill embodying the "pay-as-you-go" principle was before Congress from early January until June 2, when a compromise measure was adopted. Work on a new tax bill was begun immediately after the summer recess, but the Senate was still considering the measure at the time of adjournment. Subsidies in one form or another were before Congress more or less continuously throughout the year, but the issue remained unsettled. Appropriations for the session totalled $114,592,591,235, most of which was for war purposes. This was less than the $147,000,000,000 appropriated by the second session of the previous Congress. The difference was due in part to completion of certain war requirements, and in lesser measure to more careful scrutiny of requests for funds.

In the field of foreign relations more was accomplished. The House passed the Fulbright resolution calling for participation by the United States in international machinery, and in November the Senate took similar action. Lend-lease was continued for one year, by an overwhelming vote. The Reciprocal Trade Agreements Bill was renewed for two years. The Chinese Exclusion Act was repealed.

As Congress adjourned, the problem of the food price subsidy program was postponed until February. The uncompleted tax bill was under administration attack because the amount produced was too small, and the war contract renegotiation provisions seemed undesirable to the Treasury. The question of increasing Social Security taxes had been postponed. Absentee voting for service men was unsettled. Mustering-out pay, veterans' unemployment compensation, and other social benefits strongly recommended had not been dealt with. The question of inflation lay behind several unfinished measures. Altogether, the record of accomplishment was less than might have been desired.

AGRICULTURE

In agriculture the major problem of the year was that of food cost subsidies. The Administration favored subsidies as a means of lowering costs to the consumer and thus as a method of preventing inflation. Farm groups, on the other hand, objected strenuously. A bill was passed in the spring which excluded government benefit payments from calculation of parity prices for ceiling purposes. This was vetoed, and the whole matter was recommitted for further study. Next, a provision forbidding payment of agricultural subsidies for price rollbacks was included in the bill extending the life of the Commodity Credit Corporation. This was vetoed, and the House voted to sustain the veto. In November the House again passed a subsidy ban. At the end of the year, the Commodity Credit Corporation was given a temporary extension, and the question of subsidies was left for the second session of Congress. A measure was passed providing for a mobile and migratory land army of workers to relieve the agricultural manpower shortage. Many of these workers were from Mexico and the Bahamas.

APPOINTMENTS

There were a number of important appointments during the year. Prentiss M. Brown was named Price Administrator, and was succeeded later in the year by Chester A. Bowles. Leo T. Crowley was placed in charge of the new Office of Foreign Economic Administration which was designed to coordinate the work of the Office of Economic Welfare, the Office of Foreign Relief and Rehabilitation Operations, the Lend-Lease Administration, and the Office of Foreign Economic Coordination. Wiley B. Rutledge was appointed to the Supreme Court. Edward R. Stettinius, Jr., became Under Secretary of State in September, succeeding Sumner Welles. W. Averell Harriman became ambassador to the Soviet Union just before the Moscow Conference. The President's nomination of Edward J. Flynn as minister to Australia was withdrawn at Mr. Flynn's request at a time when his confirmation by the Senate seemed somewhat problematic. Partly as a result of the "Patton incident," action on a series of military promotions was deferred until next year.

WAR AND OTHER APPROPRIATIONS

On Jan. 11 the President sent to Congress a budget of $108,903,047,923, of which all but $7,000,000,000 was for war purposes. This represented an increase of nearly $50,000,-

000,000 over the budget proposed for the previous year, but was approximately $37,000,000,000 less than the amount actually appropriated by the 1942 Congress, which had had to supplement many appropriations for the fiscal year 1942. By the close of 1943 Congress had appropriated $114,592,591,235. Of this, approximately $8,345,000,000 was to supplement appropriations for the fiscal year 1943. The principal war appropriations were:

Navy, additional 1943	$ 3,836,176,119
Navy, 1944	27,637,226,198
War agencies, 1944	2,911,697,000
Military establishment, 1944	59,034,839,673

There were also some other appropriations for this purpose. Approximately $6,273,620,000 was voted for lend-lease. Amounts for purposes other than war reached about $7,000,000,000.

The appropriation measures were made vehicles for various restrictions on the Administration. The funds for the Independent Offices Supply Bill were cut by the elimination of the National Resources Planning Board. Later measures provided that the President should not use any of his emergency fund for services for which Congress had refused to make appropriations. A deadlock between the Senate and the House over the continuation of the National Youth Administration which delayed the passage of the Labor Department-Federal Security supply bill until after the beginning of the new fiscal year was finally resolved by agreement that the agency should be liquidated by Jan. 1, 1944. Crop insurance was cut so markedly that it brought an expression of administrative disapproval. The War Agencies Bill carried a cut in funds for the office of Price Administration and for the domestic activities of the Office of War Information. The Urgent Deficiency bill carried a provision that three named government employees who had been charged with Communism might remain on the payroll only until Nov. 15 unless reappointed by the President and confirmed by the Senate. Mr. Roosevelt signed the measure under protest after Congress had recessed for the summer and sent a message in September attacking the rider as unconstitutional. In November Secretary Ickes told the House Insular Affairs Committee that a test case would be taken to the courts. Whether such a method of supervising appointments was constitutional had not been determined by Dec. 21.

DRAFT AND MANPOWER

The question of the drafting of pre-Pearl Harbor fathers was before Congress for much of the year and attracted much attention. The Army was opposed to any special restrictions on this group. The Kilday bill granting prior deferments to married men was passed in the House and tabled in the Senate. Senator Wheeler sponsored a measure which would have deferred until Jan. 1, 1944, fathers married prior to Dec. 8, 1941. This was vigorously opposed by General Marshall, Admiral King, and Bernard Baruch. In December there was signed a substitute bill which provided a national pool plan for selective service in which fathers of children born before Sept. 15, 1942, were placed at the bottom of the list. This provision was modified by an escape clause stipulating that the plan should not interfere with the orderly flow of manpower into the armed forces. The bill also eliminated the jurisdiction of the War Manpower Commission over selective service and repealed the Commission's list of non-deferrable occupations. It further provided for review of occupation deferments by appeal boards having jurisdiction over the registrant's principal place of employment. The Army began induction of pre-Pearl Harbor fathers in October.

SERVICEMEN'S DEPENDENTS

While the father draft measure was under discussion, a bill was passed increasing allotments to servicemen's dependents. This left the basic payment to a wife at $50 at month, but increased from $62 to $80 the allotment for a wife and one child and from $10 to $20 that for each additional child. Similar increases for parents and other dependents were provided. The payments made by the servicemen remain at $22, or $27 if payments are made to more than one class of dependents. The system was extended to staff sergeants, technical and master sergeants, and the corresponding ranks in other services, thus covering all seven grades of enlisted men.

In September a special deficiency appropriation bill was passed to care for the government's maternity and child-care program for those wives of enlisted men who became mothers before June 30, 1943.

VETERANS

In November President Roosevelt asked the Congress for immediate consideration of a three-point program for adjustment of service forces in the reconstruction period. The points included mustering-out pay, unemployment compensation for those who can not find work after demobilization, and full credit under the Federal old age security law for the period of military service. Action on this program had not been completed at the time of adjournment.

ABSENTEE VOTING

The question of absentee voting was raised again by the Seventy-Eighth Congress. A bill giving Federal control over the matter passed the House but was replaced in the Senate by a measure leaving control over the balloting to state officials. The change was brought about largely by senators from the states retaining the poll tax. No legislation had been completed at the end of the session.

ANTI-STRIKE LAW

The principal labor measure of the year was the National Defense Plants Anti-Strike Law. This gave the President authority to take immediate possession of plants and mines affected by a strike. It set up a complicated procedure in case of threatened strikes and empowered the Federal Government to take over a plant if the majority voted to strike. Workers must then return to work under conditions prevailing before the strike. If they failed to do so, they could be fined up to $5,000 and imprisoned up to one year; then within 60 days after production returns to normal the Government must return the property to its owners. Furthermore, unions were not allowed to make any contributions to political campaigns for the duration of the war. The bill was vetoed by the President who felt that the strike-notice requirements were such that they might actually precipitate a strike. The President would have preferred a work-or-fight policy to be effected by a change in the Selective Service Act. Congress, however, immediately overrode the veto by a vote of 56 to 25 in the Senate and 244 to 108 in the House.

RAILROAD EMPLOYEES' PAY

In December the Senate passed a bill to increase the pay of 1,100,000 railroad clerks and other non-operating workers eight cents an hour. The measure was still in committee in the House at the time of adjournment. Much interest attached to this because of the threatened railroad strike and the presidential order for taking over the railroads.

LEND-LEASE

In the field of foreign relations several important measures were passed with much discussion but relatively little ultimate opposition. Lend-lease aid was extended for one year and without restrictive amendments. The Lend-Lease appropriation bill passed later in the year provided that none of the funds be spent for subsidies on agricultural products grown in this country, thereby bringing into the picture a domestic issue. This supplemental appropriation was for $6,273,629,000 which, with the balance from the earlier funds, was to last until June 1944. This was a reduction from the amount asked. Mr. Roosevelt's final lend-lease report to Congress for 1943 showed a total of more than $18,608,553,000 for lend-lease, a sum which amounted to 13.5 per cent of all war expenditures from March 11, 1941, to Nov. 30, 1943. The greatest amount of this went to the United Kingdom. The Soviet Union received more than one fourth of lend-lease exports to all countries.

POST-WAR POLICY

After the summer recess much interest was shown in expressions of post-war policy. There was a desire in particular to get the Senate to commit itself in advance of any peace treaty, in the hope of preventing some of the complications which arose after the Versailles Treaty. In September the House by a vote of 360 to 29 adopted the Fulbright resolution in which it was stated that "Congress expresses itself as favoring the creation of appropriate international machinery with power adequate to establish and maintain a just and lasting peace, among the nations of the world, and as favoring participation by the United States therein, through its constitutional processes."

The Fulbright measure as a concurrent resolution was then sent to the Senate which, however, took no action on it, preferring to draft its own bill. The Senate had intensive debate over the strength of the measure to be drawn, and two distinct groups appeared, one demanding much more positive action on the part of the United States than the other desired. Discussion continued throughout October. Meanwhile, the conference of Secretary of State Hull, Foreign Minister Eden, and Foreign Commissar Molotov had been held in Moscow, and the Moscow agreement of the three powers represented and of China had been announced to the world. It was decided to revise the Senate resolution in accordance with Article 4 of the Declaration of Moscow. The resolution now opened with statements on continuation of the war until victory and cooperation with our comrades-in-arms in securing a just and honorable peace. It continued:

"That the United States, acting through its constitutional processes, join with free and sovereign nations in the establishment and maintenance of international authority with power to prevent aggression and to preserve the peace of the world.

"That the Senate recognizes the necessity of there being established at the earliest practicable date a general international organization, based on the principle of the sovereign equality of all peace-loving states, and open to membership by all such states, large and small, for the maintenance of international peace and security."

It concluded with a statement that any treaty carrying out the measures above be adopted constitutionally with the two-thirds ratification by the Senate. This was carried by a vote of 85 to 5. A copy was sent to the President merely as an expression of opinion. It did not require his signature nor any action by the House.

REPEAL OF CHINESE EXCLUSION ACT

Another measure of interest in the international field was the repeal of the Chinese Exclusion Act. This removed the restrictions on Chinese immigration and placed such entries under the quota system, permitting the admission of 105 Chinese annually. It was especially recommended by the President and passed without difficulty.

THE PHILIPPINES

In November a resolution was adopted extending the terms of the President and Vice-President of the Philippines until the islands shall be freed of Japanese domination. This was done to obviate the retirement of President Quezon, which would otherwise have been necessary under Philippine law on Nov. 15, 1943, ending his eight-year tenure under that law.

RECIPROCAL TRADE AGREEMENTS

The Reciprocal Trade Agreements Act, originally passed in 1934, was renewed after some discussion by a vote of 342 to 65 in the House and 59 to 23 in the Senate. Amendments which would have required ratification of pacts by Congress were defeated. The extension was for two years only, instead of three as in the earlier bills.

HOUSING

A bill was passed extending the National Housing Act providing for loan insurance until July 1, 1946.

PAY-AS-YOU-GO TAXATION

Two major problems presented themselves in the field of taxation: first, the method of payment, and, second, the increased amounts requested by the Treasury Department. In regard to the second little was accomplished. Congress was occupied from January to June with the means of payment. The Revenue Act of 1942 called for vast increases from individual taxpayers and added to the list millions who had not previously paid. Hence there arose a demand for some form of pay-as-you-go to ease the burden on the taxpayer.

The President endorsed this idea in principle at a press conference early in January. The Ways and Means Committee decided to settle the method of payment first and take care of the tax increase later. There was much pressure in favor of the Ruml plan, which would have forgiven all 1942 taxes and started with a clean slate in 1943. But this was rejected by the House by a vote of 215 to 198 in March and the whole matter returned to the committee.

In May the House passed a modified bill which cancelled the normal tax and 13 per cent of the surtax on 1942 incomes. The bill then went to the Senate, which passed a form of the Ruml plan. The President wrote to the chairmen of both Senate and House committees, threatening a veto if the Ruml plan were adopted but favoring some form of pay-as-you-go. The bill then went to conference with the House voting 202 to 194 against instructing the conferees to accept the Senate version.

The resulting compromise bill was signed by the President, June 9. The measure cancelled all liability for 1942 or 1943 for those owing less than $50 in taxes, and $50 of the liability was cancelled on bills from $50 to $66.67. If the liability was $66.67 or more, 75 per cent was cancelled, and the remaining 25 per cent was made payable in two equal installments, on March 15, 1944, and March 15, 1945, respectively. The full tax was made payable for either 1942 or 1943 income, whichever is greater. The bill imposed a withholding tax of 20 per cent of taxable income for wage and salary earners, beginning July 1, 1943. Various exceptions were made for certain groups and special provisions for members of the Armed Forces.

TAX INCREASE

In the budget message on Jan. 11, 1943 President Roosevelt asked for a total budget of $108,903,047,923, with a request that there be an increase of $16,000,000,000 in Federal revenue from higher taxes and compulsory savings. The President hoped that taxes might pay 50 per cent of the budget. This was not acted upon before the summer recess because of the problems connected with the method of payment. In October the Treasury asked for $10,560,000,000 in new taxes, a considerable modification of the original request. The House passed a tax bill providing only $2,140,000,000 in increased revenue. The Secretary of the Treasury appeared before the Senate Finance Committee still asking for the increase, and in this he was supported by a number of important national organizations. Just before adjournment the Senate Finance Committee reported a bill $144,000,000 higher than the House version, and the problem was left for the second session to handle.

SOCIAL SECURITY TAX

The social security tax for employers and employees was to have risen automatically from one to two per cent on Jan. 1, 1944. The advisability of this had been much discussed in both houses. In the last days of the session it was voted to freeze the tax at the present level for the first two months of 1944, thus postponing the issue.

VICTORY TAX

A measure was also passed providing that the refund credit allowable in certain cases against 1943 Victory taxes be given in 1944, rather than after the war as provided in the Revenue Act of 1942.

PUBLIC DEBT EXTENSION BILL

The amounts of increased revenue asked and the failure to act thereon have been noted. One problem which was met was that of the debt limit. In March 1942 this had been increased to $125,000,000,000, but that amount was reached almost before the end of the year. The Treasury asked for an increase to $210,000,000,000. The bill was presented, but quickly became a matter of political controversy because of the inclusion of a rider repealing an executive order limiting salaries to $25,000 after taxation. In a letter to Chairman Daughton of the House Ways and Means Committee the President asked that all individual income from whatever source derived be limited to $25,000 for a single person and $50,000 for a married couple, for the period of the war. This request was not acted upon. The bill passed, repealing the executive order and providing that the floor level of salaries be that of the period from Jan. 1 to Sept. 15, 1942. Increases above this may be limited by executive action. The President permitted the Public Debt Extension Bill to become law without his signature because of the repeal of the executive order.

CIVIL SERVICE

No real change in Civil Service was made during the year. There was an attempt to require Senate confirmation of all government employees receiving over $4,500 a year. This attracted much attention, met with strong presidential opposition, and was finally defeated.

WOMEN AND THE WAR

Women's activities in the war were increased by several measures passed during the year. Women physicians were given the opportunity to receive commissions in the Army and Navy. The WAACS, the Women's Auxiliary Army Corps, became the WACS, the Women's Army Corps, a full-fledged part of the armed services. This necessitated reenlistment of women in the service to take care of the changed status. In June provision was made for the training of nurses. Free training was provided for student nurses who should sign for essential war nursing service under the nursing reserve. The bill forbade discrimination against candidates because of race, creed, or color and against hospitals because of size.

MISCELLANEOUS

A number of single measures of some importance were considered. In December Congress passed a resolution extending for six months the period in which might be tried by court martial the commanding officers of the Army and Navy at Pearl Harbor on Dec. 7, 1941.

A resolution designating Dec. 7 as Armed Services Honor Day was vetoed by the President.

A merger of the Western Union and Postal Telegraph companies which had been desired for some time was approved in a bill signed by the President in March.

The anti-poll tax measure of other

years was brought up again. The bill was made the subject of various manoeuvres in the House but was finally passed in May by a vote of 265 to 110. It was favorably recommended by the Senate Judiciary Committee but no further action was taken.

INVESTIGATIONS

Both houses of Congress conducted a number of investigations in the course of the year. Some of these were merely routine. Many concerned the conduct of the war. Among the more important of those dealing with the war were investigations into manpower. The Labor Committee early in the year recommended to the House an over-all civilian war mobilization agency. This was again advocated later in the year in a report prepared by Bernard Baruch for the Director of War Mobilization. The Truman (Senate Defense) Committee reported to the Senate on the need for adjustment of conflicting authority between government agencies and the need for more centralized authority, though it found the general results of the war program good. It was not pleased with some parts of the labor situation. The Committee's report on synthetic rubber, aviation gasoline, and escort ships recommended that the War Production Board improve administration in these fields. The Office of War Information was the subject of much attention by both House and Senate committees. Its appropriations for domestic activities were much cut as a result, but those for work abroad were continued.

The House also investigated war contracts, the grade labeling program of the Office of Price Administration, and government plans for curtailment of news print. The Senate received detailed reports from a subcommittee on conditions in Japanese relocation camps. Five members of the Senate made a world tour, inspecting Army posts and reported extensively on their observations. The Senate also received reports on the activities of our Government in Latin America. Both of these last groups of reports were critical at certain points and led to much discussion.

The House continued the life of the Dies Committee investigating un-American activities and provided for hearings, by a sub-committee of the Appropriations Committee, of government employees accused of Communistic affiliations. It also voted an investigation of government agencies to see whether they were exceeding their authority.

At the end of the year a Senate Judiciary sub-committee was arousing some popular interest by probing into an alleged "black market" in liquor.

THE SUPREME COURT AND CONSTITUTIONAL LAW

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GENERAL

On Feb. 15, 1943, Wiley B. Rutledge, Jr., a judge of the United States Circuit Court of Appeals for the District of Columbia, took the seat on the Supreme Court vacated by the resignation in October, 1942 of Mr. Justice Byrnes. There were no other changes in the personnel of the Court. Disagreement among the justices appears to have abated somewhat. In only a dozen cases of importance did either four or three justices dissent, as against some 30 cases in 1942. The Court overruled two earlier decisions, both recent. The reversal in each case was made possible by the vote of Mr. Justice Rutledge.

Cases involving issues of civil liberty overshadowed all others. Nine of these dealt with religious liberty and were brought into court by Jehovah's Witnesses. The most important were those in which, reversing earlier recent decisions, the Court held that non-discriminatory license taxes may not be imposed on the circulation and sale of religious literature, and that the refusal by school children on religious grounds to salute the American flag may not be penalized. The Court upheld the discriminatory curfew imposed by West Coast military authorities upon American citizens of Japanese origin. It refused to permit the cancellation of the naturalization, completed 12 years ago, of a member and officer of the Communist Party. It also decided a group of cases involving the civil liberties of persons accused of crime.

A second general group of cases dealt with the perennial conflicts between state and Federal authority which result from the broad application of state statutes levying taxes or exercising police powers. In these the supremacy of Federal law was invoked, and state assumptions of authority were denied in some and upheld in others. Third, important decisions involved the interpretation of Federal statutes. The Federal Communications Commission was held to have power to issue its far-reaching regulations of chain broadcasting, and the Court upheld the conviction of the American Medical Association under the Sherman Act for having discriminated against doctors and hospitals participating in a scheme of group health insurance in the District of Columbia.

RELIGIOUS LIBERTY

All of the cases involving religious liberty arose from the activities of the Jehovah's Witnesses and state or community efforts to regulate or suppress these activities. This dauntless and aggressive sect has brought to the Supreme Court in the last five years 16 major constitutional cases involving religious liberty, often combined with issues of freedom of speech and press. While some of these issues have been easily settled, others have been bitterly controversial. This is shown by the fact that in deciding the 16 cases the Court has reversed itself twice, divided five-to-four in three cases and six-to-three in another, and produced 27 opinions.

Two of the cases disposed of in 1943 were held, without dissent, to be governed by earlier decisions of the Court. *Largent v. Texas* (March 8) held invalid the ordinance of a Texas city which forbade any person to solicit orders or to sell books, or other merchandise, in the residential area without first securing a permit from the mayor who could issue such permit if, after investigation, he "deems it proper or advisable." The appellant sold religious books and tracts without applying for the required permit. In *Lovell v. Griffin* (303 U. S. 444, 1938), and *Schneider v. Irvington* (308 U. S. 147, 1939), the Court held that the right to distribute literature or handbills on the public streets, or to distribute such material or to canvass from house to house could not validly be made dependent upon the previous permission of municipal officers acting in their discretion. Such a requirement set up a censorship which abridged the freedom of the press. The present Texas ordinance does the same thing. "Dissemination of ideas depends upon the approval of the distributor by the official. This is administrative censorship in an extreme form. It abridges the freedom of religion, of the press, and of speech guaranteed by the Fourteenth Amendment." In *Jamison v. Texas* (March 8) a member of the Jehovah's Witnesses distributed on the streets of Dallas, Tex. handbills announcing a religious meeting and advertising religious books and tracts, in violation of an ordinance forbidding completely the showing or scattering on the streets of handbills, circulars, or other advertising material. This ordinance was held to violate the Fourteenth Amendment. The city "may not prohibit the distribution of handbills in the pursuit of a clearly religious activity merely because the handbills invite the purchase of books for the improved understanding of the religion or because the handbills seek in a lawful fashion to promote the raising of funds for religious purposes."

Murdock v. Pennsylvania (May 3) brought to the Court, for re-examination, the constitutional issue upon which it had divided five-to-four 11 months earlier in *Jones v. Opelika* (316 U. S. 584, 1942). This issue is whether religious liberty is violated by imposing on the sale of religious books and tracts a non-discriminatory license tax, designed to raise revenue, and required of all who engage in canvassing or soliciting for the sale of books or merchandise of any kind. While such an ordinance had been held valid in the Opelika case, the appointment of Mr. Justice Rutledge to succeed Mr. Justice Byrnes, a member of the majority in that case, promised a reversal, since the new justice, while on the Circuit Court of Appeals for the District of Columbia, had dissented vigorously from a decision of that court holding valid a similar, but less burdensome, licensing requirement of the District. Mr. Justice Rutledge joined the four justices who had dissented in the Opelika case to effect its reversal by the five-to-four decision in *Murdock v. Pennsylvania*.

The ordinance of the City of Jeannette, Penn., which was attacked in the Murdock case, imposed a substantial, non-discriminatory tax for revenue purposes upon the privilege of canvassing for or soliciting sales of any kind of merchandise. It did not mention religious books or tracts but applied broadly to all canvassing. The taxes were $1.50 for one day, $7 for one week, $12 for two weeks, and $20 for three weeks. Murdock and others, without seeking or obtaining a license, went from door to door distributing religious literature and soliciting people to buy booklets at 25 cents each and tracts at five cents each. Lesser sums were often accepted, and the books and pamphlets were in some cases given away. They were convicted and fined for violating the ordinance.

The opinion of the majority, written by Mr. Justice Douglas, follows a neat syllogistic pattern: A tax laid on the free exercise of religion, as protected by the First and Fourteenth Amendments, is unconstitutional. The circulation and sale of religious literature by Murdock is an exercise of religion; the ordinance does place a tax upon that circulation and sale; and, therefore, the ordinance is void. The activities of Murdock and other Jehovah's Witnesses here involved constitute an exercise of religion and not a commercial enterprise. They are engaged in a form of religious evangelism which is "age-old." The incidental collection of small sums for books and tracts to help finance the spread of religion does not make this evangelism commercial, any more than passing the collection plate makes a Church service commercial. ". . . an itinerant evangelist, however misguided or intolerant he may be, does not become a mere book agent by selling the Bible or religious tracts to help defray his expenses or to sustain him. . . . It is a distortion of the facts of record to describe their activities as the occupation of selling books and pamphlets." It is not asserted that religious groups or the press are free from all financial burdens imposed by government. Obviously the income or property of a preacher may be taxed like that of any other citizen. This tax, however, is upon the privilege of carrying on religious activity. It could be made so heavy as to make the continuance of the activity impossible. In the case of itinerant evangelists, like the Jehovah's Witnesses, this may easily be the result. "Itinerant evangelists moving throughout a state or from state to state would feel immediately the cumulative effect of such ordinances as they become fashionable. . . . This method of disseminating religious beliefs can be crushed and closed out by the sheer weight of the toll or tribute which is exacted town by town, village by village." The non-discriminatory nature of the tax does not save it. It is not enough that religious activities are not taxed higher than other activities. They may not be taxed at all. "Freedom of press, freedom of speech, freedom of religion are in a preferred position." The state is not making a charge for a privilege which it bestows. The privilege of engaging in religious activity does not come from the state but is guaranteed by the Federal Constitution. The fact that this tax is invalid does not mean that states and municipalities have no power to touch the appellants in any way. The Court intimates that it would uphold an "ordinance . . . narrowly drawn to safeguard the people of the community in their homes against the evils of solicitations," as well as a "nominal" fee "imposed as a regulatory measure and calculated to defray the expense of protecting those on the streets and at home against the abuses of solicitors."

Four Justices—Reed, Roberts, Frankfurter, and Jackson—dissented in this case in three opinions by Justices Reed, Frankfurter, and Jackson. Their composite argument ran roughly as follows: The present tax was not attacked as either discriminatory or oppressive and should, therefore, be assumed to be neither. The fact that the activities of the appellants might have been taxed in such a way as to destroy them does not justify the denial of the power to tax them at all. There is no support for the theory that the Church or the press are, by the force of the First and Fourteenth Amendments, free from taxation. "No one would suggest that a clergyman who uses an automobile or the telephone in connection with his work thereby gains a constitutional exemption from taxes levied upon the use of automobiles or upon telephone calls. . . . Plainly a measure is not invalid under the Constitution merely because it falls upon persons engaged in activities of a religious nature." Nor is a tax void merely because it falls upon activities which constitute the exercise of a constitutional right, as shown by the fact that the business of running a newspaper is clearly taxable. It has never before been argued that the sale of books and tracts is, in itself, a religious practice, although such activities may be incidental to the spread of religion. The decision of the Court does more than protect religious activities from interference and oppression; it bestows upon them what amounts to a tax subsidy which violates "our accepted belief in the separation of Church and state." Mr. Justice Jackson describes the methods and activities of the Jehovah's Witnesses who, one hundred strong, descended upon the City of Jeannette and by their persistent door-to-door canvass and their violent denunciation of other religious teachings offended the citizens of the community. The Court's decision in this and other cases about to be discussed leaves the state and city powerless to tax or to regulate these activities. "Civil government can not let any group ride rough-shod over others simply because their 'consciences' tell them to do so."

Part of Mr. Justice Jackson's dissent was directed against the decision of the Court in *Martin v. Struthers* (May 3). Here the Court held invalid a city ordinance making it unlawful to ring door bells or knock on doors in order to summon the inmate of a residence to the door in order to give him handbills, circulars, or other advertisements. This is, of course, exactly what the Jehovah's Witnesses do, and the appellant, a member of that sect, was convicted for violating the ordinance. Speaking through Mr. Justice Black, the majority emphasized that door-to-door visitation to circulate pamphlets, both religious and political, has long been an accepted method of communication. To forbid it altogether, as this ordinance does, is to violate the freedom of press and speech protected by the Constitution. It is true that such bell-ringing and door-knocking may be a nuisance to householders and may facilitate the activities of burglars and other marauders. These dangers and abuses, however, may easily be "controlled by traditional legal methods." Reference is made to a proposed form of regulation which would make it an offense to ring the bell of a householder who has appropriately indicated that he is unwilling to be disturbed. The problem must be worked out "with due respect for the constitutional rights of those desiring to distribute literature and those desiring to receive it, as well as those who choose to exclude such distributors from the home."

Mr. Justice Reed dissented in an opinion in which Justices Roberts and Jackson concurred. He failed to see in the ordinance any censorship or suppression of ideas or any real invasion of the freedom of speech and press. It is rather a "fair adjustment of the privilege of distributors and the rights of householders."

In *Douglas v. Jeannette* (May 3) the Court unanimously refused to enjoin the City of Jeannette from prosecuting Douglas and other Jehovah's Witnesses for soliciting sales of religious literature without first procuring a license from the city authorities and paying a license tax. The injunction was sought before the Murdock case was decided. The constitutional rights of the defendants can be adequately asserted in an ordinary criminal case. Federal courts will enjoin state criminal prosecutions only on a showing of "danger of irreparable injury both great and immediate." There was no such danger here, nor did the large number of threatened prosecutions constitute a reason for the summary procedure of the injunction.

Jones v. Opelika (May 3), on the authority of the Murdock case, vacates the judgment entered in *Jones v. Opelika* in 1942. These various decisions, however, leave one point undecided by the Court, although the door is left open for its consideration later. *Busey v. District of Columbia* (June 14) involved the validity of imposing upon Jehovah's Witnesses the license tax of one dollar per month required by the District of Columbia of those selling magazines on the streets. The Circuit Court of Appeals for the District had held the license tax valid. Judge Rutledge had dissented. This tax has the earmarks of what Mr. Justice Douglas in the Murdock case refers to with apparent approval as a "nominal" fee, "imposed as a regulatory measure and calculated to defray the expense of protecting those on the streets and at home against the abuses of solicitors." Instead of invalidating this tax the Court vacated the judgment in the case and remanded it back to the court below for reconsideration. The Circuit Court of Appeals has already heard the case and again has held the license tax void. The Supreme Court may have an opportunity to review this decision.

SALUTING THE FLAG

In *West Virginia State Board of Education v. Barnette* (June 14) the Court held invalid a state regulation requiring school children, under penalty of expulsion, to salute the American flag. This reversed the Court's decision in 1940 in *Minersville School District v. Gobitis* (310 U. S. 586). In the earlier decision the Court stood eight-to-one, with Mr. Justice Frankfurter writing the majority opinion and Mr. Justice Stone dissenting. In *Jones v. Opelika* (316 U. S. 584, 1942) three of the justices who dissented in that case, Justices Black, Douglas, and Murphy, announced that they had become convinced that the Gobitis case was "wrongly decided." In the Barnette case, therefore, the majority was composed of Justices Stone, Black, Douglas, Murphy, Rutledge, and Jackson (who wrote the Court's opinion). Justices Black and Murphy wrote brief concurring opinions. Justices Reed and Roberts dissented and merely referred to their position in the Gobitis case. Mr. Justice Frankfurter dissented at length.

The majority opinion by Mr. Justice Jackson holds that to compel conscientiously scrupulous children

(Jehovah's Witnesses, in this case), to salute the flag deprives them of the freedom of religion guaranteed by the due process clause of the Fourteenth Amendment. The refusal to salute the flag does not involve any "collision with the rights asserted by any other individual," nor was it accompanied by any conduct which was not peaceable and orderly. "It is now a commonplace that censorship or suppression of expression of opinion is tolerated by our Constitution only when the expression presents a clear and present danger of action of a kind the State is empowered to prevent and punish." No one claims that refusal by school children to salute the flag creates any such "clear and present danger." In the Gobitis case Mr. Justice Frankfurter had argued that to upset the local school board's authority to require the salute to the flag was an improper usurpation by the Court of legislative power. "It would in effect make us the school board for the country," and would replace legislative by judicial discretion in a field "where courts possess no marked and certainly no controlling competence." Mr. Justice Jackson vigorously rejects this argument. The purpose of the Bill of Rights was to withdraw freedom of speech, press, religion, and other basic rights from the reach of legislatures and popular majorities. The judicial tolerance which should be accorded to legislative action controlling a public utility is misplaced when the basic civil liberties of the First Amendment are at issue. The Court can not escape its responsibility in this case by a confession of lack of "marked . . . and controlling competence" in the field of education. "We act in these matters not by authority of our competence but by force of our commissions. We can not, because of modest estimates of our competence in such specialties as public education, withhold the judgment that history authenticates as the function of this Court when liberty is infringed." Finally, it can not be argued that, because national unity is the basis of national security, and flag-saluting may be deemed by the local authorities a means of promoting such national unity, compulsion may be used to enforce the salute to the flag. All agree that national unity is desirable and may be promoted by all voluntary means of persuasion. Efforts to "coerce uniformity of sentiment" are entirely different, however, and defeat their own purpose. "Ultimate futility of such attempts to compel coherence is the lesson of every such effort from the Roman drive to stamp out Christianity, as a disturber of its pagan unity, the Inquisition, as a means to religious and dynastic unity, the Siberian exiles, as a means to Russian unity, down to the fast-failing efforts of our present totalitarian enemies. Those who begin coercive elimination of dissent soon find themselves exterminating dissenters. Compulsory unification of opinion achieves only the unanimity of the graveyard." The Bill of Rights was set up to prevent exactly this sort of coercion. "If there is any fixed star in our constitutional constellation, it is that no official, high or petty, can prescribe what shall be orthodox in politics, religion, or other matters of opinion or force citizens to confess by word or act their faith therein. If there are any circumstances which permit an exception, they do not now occur to us."

In a long dissenting opinion Mr. Justice Frankfurter strengthens and clarifies his majority opinion in the Gobitis case. He contends that the only issue in the present case is "whether legislators could in reason have enacted such a law, . . . and it would require more daring than I possess to deny that reasonable legislators could have taken the action which is before us for review." This judicial self-restraint should govern the Court at all times when it is asked to nullify legislation. Furthermore, "our power does not vary according to the particular provision of the Bill of Rights which is invoked." This means that the Court need be no more alert to invalidate laws attacked under the First Amendment than any other type of legislative regulation. The compulsory flag-salute regulation does not differ in its constitutional aspects from many other valid forms of compulsion which have been protested on religious grounds. Examples are compulsory vaccination, food inspection regulations, the obligation to bear arms, testimonial duties, and compulsory medical treatment. Here may also be mentioned the common, though controversial, requirement of Bible-reading in the schools. The argument that no "clear and present danger" to the national security justifies the flag-salute requirement is inapposite. The "clear and present danger" doctrine of free speech arose from a wholly different context and was never intended to apply to this type of legislation. "Of course patriotism can not be enforced by the flag salute. But neither can the liberal spirit be enforced by judicial invalidation of illiberal legislation."

In *Taylor v. Mississippi* (June 14) the Court unanimously set aside the conviction of three Jehovah's Witnesses under a statute which makes it a felony to teach or preach orally any principles, or to distribute any printed matter, calculated to encourage violence, sabotage, or disloyalty to the state or nation, to advocate the cause of our enemies, to disclose military information or secrets, to utter or distribute material which would "incite any sort of racial distrust, disorder, prejudices or hatreds, or which reasonably tends to create an attitude of stubborn refusal to salute, honor or respect the flag or government of the United States, or of the State of Mississippi." While one of the appellants appears to have announced that it is wrong to fight our enemies and that our soldiers are being shot to no purpose, the prosecutions were in the main focussed on the activities of all three in condemning on religious grounds the salute to the flag. As applied in these cases, the statute denies the liberty of speech, press, and religion protected by the due process clause of the Fourteenth Amendment. "It punishes them although what they communicated is not claimed or shown to have been done with an evil or sinister purpose, to have advocated or incited subversive action against the nation or state, or to have threatened any clear and present danger to our institutions or our government. What these appellants communicated were their beliefs and opinions concerning domestic measures and trends in national and world affairs."

WAR CASES: WEST COAST CURFEW APPLIED TO JAPANESE

In February, 1942, the President issued Executive Order No. 9066, which authorized the creation of military areas from which any or all persons might be excluded and with respect to which the right of persons to enter, remain in, or leave should be subject to such regulations as the military authorities might prescribe. On March 2, the entire West Coast to an average depth of 40 miles was set up as Military Area No. 1 by the Commanding General in that area, and the intention was announced to evacuate from it persons of suspected loyalty, alien enemies, and all persons, aliens and citizens alike, of Japanese ancestry. Congress then provided by statute for penalties upon those who wilfully violated the military regulations set up in these military areas (Act of March 21, 1942). Shortly thereafter General DeWitt proclaimed a curfew regulation in Military Area No. 1 applicable to all aliens, and to all persons of Japanese ancestry, but not to other residents. Those affected were required to be in their residences between 8:00 p.m. and 6:00 a.m. By this time the military authorities were also effecting the compulsory evacuation from this area of all persons of Japanese ancestry, including some 70,000 native-born American citizens. The constitutional questions raised by these drastic and discriminatory measures directed against American citizens of Japanese ancestry were novel and important. Two of these questions came before the United States Circuit Court of Appeals sitting in San Francisco. That court certified them to the Supreme Court for answer. The Supreme Court ordered up the entire record which permitted decision in the same way as though the case had gone up on appeal.

In *Hirabayashi v. United States* (June 21), the appellant, a senior in the University of Washington, was born in Seattle of alien Japanese parents and was, therefore, an American citizen. He failed to report for registration for evacuation from the military area when ordered to do so, and he violated the curfew by being away from home after eight o'clock at night. He was convicted and sentenced for both offenses, the sentences to run concurrently. Since the sentences did run concurrently, the Supreme Court found it unnecessary to consider the validity of the evacuation order, in as much as it upheld the conviction for violation of the curfew. Thus the Court by-passed the major constitutional problems involved in the Japanese evacuation program.

The curfew order was attacked on two grounds: first, it was an unconstitutional delegation of legislative power to the military commander; second, it discriminated between American citizens of Japanese ancestry and those of other ancestries in violation of the Fifth Amendment. The Court, in an opinion by Chief Justice Stone, rejected the first argument on the ground that Congress by the Act of March 21, 1942, gave its approval to the regulations established in the military areas by the military authorities, and did so with full knowledge that curfew regulations would be included in the list. The discriminatory application of the curfew to citizens of Japanese ancestry was held valid as a temporary emergency war measure. "The war power of the national government is 'the power to wage war successfully.' It extends to every matter and activity so related to war as substantially to affect its conduct and progress." Those responsible for the conduct of war and the protection of the national security must be allowed the widest possible discretion in the choice of means. The Court can not sit in judgment upon the exercise of that discretion. The Court described briefly the critical situation on the West Coast after Pearl Harbor which was created by the concentration in vulnerable areas of large numbers of persons of Japanese origin, and emphasized the slight degree to which the mass of these Japanese people had been assimilated into our population. These facts made it reasonable for Congress and the Executive to conclude that peculiar dangers to the national security might arise from this source. It is not necessary to the validity of the measures taken that their fears be later justified. In time of war prompt and decisive action must be taken upon the basis of quick appraisals of necessity.

The mere fact of discrimination against a group does not deny due process since "Congress may hit at a particular danger where it is seen, without providing for others which are not so evident or so urgent." The Court admits that distinctions based on race "are by their very nature odious to a free people" and in most cases racial discriminations are irrelevant to any proper legislative purpose and, therefore, prohibited, but in view of the geographical facts bearing upon the military security of the West Coast, and the fact that Japan is our enemy in that theatre of the war, it is not unreasonable to deal separately and differently with a group of citizens having unique and potentially dangerous associations with Japan. "In time of war residents having ethnic affiliations with an invading enemy may be a greater source of danger than those of a different ancestry." The Court does not discuss the broad problems of the war power in general, but contents itself with holding that the curfew order as applied, and at the time it was applied, fell within the constitutional limits of the war power.

Mr. Justice Douglas concurred separately in order to urge that while the discriminatory treatment accorded an unsorted group of people of Japanese ancestry might be justified by the time pressure of a military emergency, it remains a serious question whether due process does not require the early creation of machinery whereby the individuals in the group might demonstrate their loyalty and their right to be relieved of the restrictions. Mr. Justice Murphy in a brief concurring opinion emphasized that only a great military emergency could justify the curfew order when it was made, and raised the question whether the continuance of the order is valid. "When the danger is past, the restrictions imposed . . . should be removed and . . . freedom of action fully restored."

DENATURALIZATION OF COMMUNISTS

Schneiderman v. United States (June 21) attracted wide attention because of its bearing on the legal implications of membership in the Communist Party. Could the Government lawfully cancel Schneiderman's citizenship on the sole ground that at the time of his naturalization in 1927 he was a loyal and active member of the Communist Party? The Court held that it could not. The immediate facts in the case were not disputed. Schneiderman was born in Russia and came to this country in 1907 or 1908. At the age of 16, he became a charter member of the Young Workers (now Communist) League and remained a member till about 1930. He was naturalized in 1927. He has been a steady and active worker in the Communist Party ever since 1922. He ran as the Party's candidate for governor in Minnesota in 1932. Since 1934 he has been a member of the National Committee of the Party, and is at present Secretary of the Party in California.

The Government's action was grounded on Section 15 of the Naturalization Act of 1906 which authorizes "cancelling the certificate of citizenship on the ground of fraud or on the ground that such certificate of citizenship was illegally procured." Schneiderman's naturalization was not attacked on the ground of fraud but on the ground of illegality. This illegality consisted of his alleged failure, by reason of his membership in the Communist Party, to meet the statutory condition of naturalization stated as follows: "It shall be made to appear to the satisfaction of the court admitting any alien to citizenship that immediately preceding the date of his application he has resided continuously within the United States five years at least, . . . and during that time he has behaved as a man of good moral character, attached to the principles of the Constitution of the United States, and well disposed to the good order and happiness of the same." The Government's position was, in essence, that no Communist Party member could meet this test.

Mr. Justice Murphy wrote the Court's opinion which ran roughly as follows: This is not a naturalization proceeding in which the government is asked to confer the privilege of citizenship. It is an action to revoke that privilege after it has been enjoyed for twelve years. The burden of proof is on the government to show that citizenship was illegally procured. This burden of proof must be met not by a bare preponderance of the evidence, but by evidence which is "clear, unequivocal, and convincing." The Government's evidence "does not measure up to this exacting standard." It falls short of it in the following respects: There is no claim that Schneiderman, prior to his naturalization, failed to behave as a man of good moral character, personally believed in or advocated doctrines contrary to the principles of the Constitution, or advocated the overthrow of government by violence. The charge that he was not attached to the principles of the Constitution was based solely on the fact of his membership and activity in the Communist Party. This membership alone does not support the Government's charge. Adherence to the doctrines of Communism, no matter how abhorrent they may appear to the majority of our people, and no matter how fundamentally they would modify our economic and governmental structure, is not *per se* incompatible with attachment to the principles of the constitution as long as this radical program is supported by peaceful and constitutional means. "It is possible to advocate such changes and still be attached to the Constitution."

While it is commonly asserted that the Communist Party officially advocates the violent overthrow of government as a means of accomplishing its purposes, and while some of the Party's literature and the teachings of some of its recognized leaders bear out this assertion, the Court finds serious conflict of evidence on this point. It is by no means clear that the advocacy of violence has been or is, the official and orthodox doctrine of the Party. "Under the conflicting evidence in this case we can not say that the government has proved by such a preponderance of evidence that the issue is not in doubt, that the attitude of the Communist Party of the United States in 1927 toward force and violence was not susceptible of classification . . . ," as "mere doctrinal justification or prediction of the use of force under hypothetical conditions at some indefinite future time—prediction that is not calculated or intended to be presently acted upon, thus leaving opportunity for general discussion and the calm processes of thought and reason." The Government accordingly has not met the burden of proof placed upon it. Justices Douglas and Rutledge wrote brief concurring opinions and Chief Justice Stone, joined by Justices Roberts and Frankfurter, dissented vigorously and at length.

COMMERCE-REGULATION OF CHAIN BROADCASTING

The question whether the powers granted to it by Congress authorize the Federal Communications Commission to issue comprehensive and drastic regulations of chain broadcasting was raised in *National Broadcasting Company v. United States* (May 10). The Court held that they did. The Commission began studying the problems of chain broadcasting in 1938 and, after extensive hearings at which station licensees, national and regional radio networks, and other interested parties were heard, it issued a report on the subject in May, 1941. This was accompanied by an order establishing eight regulations designed to correct abuses in the radio network system under which 97 per cent of the total nighttime broadcasting power of all stations in the country is controlled by NBC, CBS, and Mutual. These regulations can not be set forth in detail here, but they forbade such provisions of existing network contracts as prevented a station from broadcasting programs of other networks, bound the network not to sell programs to more than one station in the same area, gave the networks options on the broadcasting time of local stations, set up network control of local station rates. The network ownership of stations was also banned, although some flexibility in the administration of this rule was promised.

Mr. Justice Frankfurter wrote the opinion of the Court. The Federal Communications Act conferred on the Commission the authority to license stations, to "make specific regulations applicable to radio stations engaged in chain broadcasting," and to make rules and regulations and set up conditions and restrictions necessary to carry out the provisions of the act. The Commission was directed to exercise its powers in these matters "as public convenience, interest, or necessity requires." By this generous grant of power the Commission is not limited in control over the engineering and technical aspects of broadcasting as is clearly shown by the legislative history of the act. As long as it guided its actions by the criterion of the "public interest," the Commission was empowered to deal broadly with all problems involving station and network broadcasting. The regulations under attack fell well within the range of the authority delegated to the Commission. The power to forbid various restrictive or monopolistic practices is not barred by the fact that such practices may also be violations of the anti-trust laws. Nor do the regulations abridge the free speech protected by the First Amendment. Complete freedom of speech on the radio is precluded by the limited facilities available. The Commission has placed no restrictions which are relevant to the expression of political, economic or social views, and has attempted no sort of censorship. Freedom of speech does not include the right to use radio facilities without a license.

Mr. Justice Murphy, joined by Mr. Justice Roberts, dissented on the ground that while Congress could have authorized the Commission to issue the regulations under attack, the present statute, reasonably construed, does not do so.

THE AMERICAN MEDICAL ASSOCIATION AND THE SHERMAN ACT

The American Medical Association, with other defendants, was convicted of violating the Sherman Act by conspiring to hinder and obstruct the operations of the Group Health Association of the District of Columbia. This association is a non-profit corporation organized by government employees to provide medical care and hospitalization on a risk-sharing pre-payment basis. It employs physicians on a full-time salary basis and seeks to provide hospital facilities for the treatment of its members and their families. This plan was contrary to the code of ethics of the A.M.A., and that organization was found to have conspired to coerce doctors to refuse employment under the Group Health Association, to restrain A.M.A. members from engaging in consultations in Group Health cases, and to restrain hospitals in and around Washington from receiving Group Health patients. The case raises no question of interstate commerce since the Sherman Act applies specifically to conspiracies in restraint of trade inside the District of Columbia.

The Court, without dissent, sustained the conviction in an opinion by Mr. Justice Roberts. It had been vigorously argued whether a physician's practice of his profession constitutes "trade" within the meaning of the Sherman Act which forbids restraints of trade. The Court found it unnecessary to answer that question since it found that the Group Health Association was a membership corporation engaged in business or trade. It collects funds with which it employs doctors and pays for hospitalization. The Sherman Act forbids "any person" from imposing the proscribed restraints of trade, and it is, therefore, irrelevant whether the A.M.A. is itself engaged in a trade. The offenses charged in the indictment taken together spell out a conspiracy in restraint of the trade of the Group Health Association. There is no employer-employee relationship involved in the dispute, and it is, therefore, not withdrawn from the reach of the Anti-Trust Act by the Norris-LaGuardia Act.

RIGHTS OF PERSONS ACCUSED OF CRIME

The case of *McNabb v. United States* (March 1) tightened very severely the restrictions upon the use against an accused person of evidence secured by objectionable methods upon the part of the law enforcement officers. The McNabb brothers were arrested after the shooting of a Federal revenue officer under circumstances making it practically certain that they had either committed the crime or knew who did. They were taken to Chattanooga, Tenn. where they were detained by Federal officers. They were not brought before a United States Commissioner or a judge. Two of them were questioned by several officers over a period of two days, and one of them for five or six hours. They were without the aid of friends or the benefit of counsel. Finally, one of them confessed to the firing of one of the several shots fired and implicated the other two men. Conviction was based on these admissions. The accused were not subjected to physical brutality, and it was not denied that the incriminating statements were made voluntarily.

In an opinion by Mr. Justice Frankfurter the Court set aside the convictions. It is well established that a conviction in a Federal court can not stand if based upon evidence secured by Federal officers in violation of the constitutional rights of the accused. The rule has been extended to evidence similarly secured in violation of a Federal statute. This is the case here. Congress has commanded that Federal officers after making arrests take their prisoners immediately before the nearest judicial officer having jurisdiction for the purpose of a hearing, commitment, or taking bail for trial. The McNabbs were denied this prompt arraignment and were unlawfully detained for substantial periods of time before being brought before a judge. "Plainly, a conviction resting on evidence secured through such a flagrant disregard of the procedure which Congress has commanded can not be allowed to stand without making the Courts themselves accomplices in wilful disobedience of law." Mr. Justice Reed dissented on the ground that the incriminating admissions of the accused should be excluded only if they were obtained by coercion.

The same result was reached in *Anderson v. United States* (March 1). Here eight defendants were convicted of having conspired together to dynamite power lines and installations owned by the Tennessee Valley Authority in the course of a strike against a power company which obtained its power from the T.V.A. They were arrested on suspicion by state officers without warrants, and were detained and questioned before arraignment for periods of from one to five days. Six of the defendants made admissions which resulted in the conviction of all. Collaboration of state and Federal officers in this denial of the statutory right of immediate arraignment made the evidence thus secured inadmissible in a Federal court against any of the defendants, and their convictions were set aside on the grounds set out in the McNabb case.

George Sylvester Viereck was convicted of violating the Act of 1938 requiring the agents of foreign principals in this country to register with the Secretary of State. He gave the information required by the statute with respect to his contracts and other relations with foreign principals, but did not report a variety of German propaganda activities which he had conducted on his own initiative and responsibility. The Supreme Court reversed his conviction on the ground that the statute did not, in fact, require the disclosures he failed to make. The scope of penal statutes must not be broadened by implication so as to make criminal acts not clearly forbidden by Congress. The legislative history of the Act of 1938 discloses no intention on the part of Congress to require more than a statement of registrant's activities on behalf of their foreign principals. This interpretation is fortified by the later action of Congress in amending the act to cover all activities of such foreign agents whether or not on behalf of foreign principals.

FEDERAL TAXATION—STOCK DIVIDENDS AS INCOME

In 1916, in *Eisner v. Macomber* (252 U. S. 189), the Supreme Court held that a dividend of common stock paid on stock of the same kind was not income within the meaning of the Sixteenth Amendment, chiefly for the reason that income had not been severed from capital or realized by such distribution. The decision was widely and sharply attacked, and Treasury officials and many others hoped that it might one day be overruled. The Revenue Act of 1936 extended the scope of Federal taxation and included provisions for the taxation of undistributed corporate income. Congress was clearly bent upon tapping more numerous sources of revenue, and it included in the act the following provision (Sec. 115): "A distribution made by a corporation to its shareholders in its stock or in rights to acquire stock shall not be treated as a dividend to the extent that it does not constitute income to the shareholder within the meaning of the Sixteenth Amendment to the Constitution." This section was carried along in later revenue statutes and is still in force. Treasury officials did not assume that this provision was intended to challenge the Court's decision in *Eisner v. Macomber* until 1941 when the Commissioner of Internal Revenue made a demand upon a taxpayer for the payment of a tax upon the value of a dividend of common stock received during the taxable year. The issue thus raised came to the Supreme Court in the case of *Helvering v. Griffiths* (March 1).

In a five-to-three decision the Court refused to reconsider the case of *Eisner v. Macomber.* In an opinion by Mr. Justice Jackson it rejected the Treasury's argument that by enacting Section 115, above quoted, Congress was challenging the 1916 stock-dividend decision. Such a view is not supported by the legislative history of the statute of 1936 or its later administration. It is within the right of Congress to enact laws which will require the Court to re-examine a previous judgment or doctrine. There need be no legislative embarrassment in so doing, but there is no clear evidence that Congress had this intention here. Since it does not appear that Congress, by present legislation, intended to tax stock dividends, the Court should not overrule a long-standing decision in order to hold that Congress has done so by inadvertence. If *Eisner v. Macomber* is to be reconsidered, it should be in a case arising under a statute in which the purpose of Congress to challenge the decision is abundantly clear. Mr. Justice Douglas, with whom Justices Black and Murphy concurred, dissented on the ground that Congress did intend to reopen the case of *Eisner v. Macomber* and would have been more explicit had it not felt embarrassment in passing a statute clearly void under an existing decision of the Court. The three justices stated that *Eisner v. Macomber* should be overruled on the merits.

APPLICABILITY OF STATE POLICE POWER TO FEDERAL INTERESTS

The steadily increasing variety and scope of the functions of the Federal Government necessarily multiplies the number of points at which Federal activities or Federal interests are brought into contact with non-discriminatory police legislation passed by the several states. A conflict of this sort was presented in the case of *Mayo v. United States* (June 1). A Florida statute regulates the sale or distribution of commercial fertilizers by requiring that each bag in which the fertilizer is sold shall be inspected and bear a stamp or label showing that the state inspection fee has been paid. The purpose of the act is to assure the purchaser that he receives a product of ascertained quality. Under authority of the Soil Conservation and Domestic Allotments Act the Secretary of Agriculture purchased commercial fertilizer outside of Florida and distributed it to consumers within the state without state inspection and without attaching the inspection stamps required by state law. The Court held unanimously that Florida could not validly enforce its law against these Federal activities. While Congress could have permitted the state regulation and tax to apply had it seen fit to do so, it had given no such permission. The inspection fees are laid directly upon the United States and are, therefore, barred by the supremacy clause of the Constitution. "These fees are like a tax upon the business of the post office or upon the privilege of selling United States bonds through federal officials."

A much more difficult problem was presented by the case of *Penn Dairies v. Milk Control Commission* (March 1). The Pennsylvania Milk Control Law establishes a Milk Control Commission with authority to fix prices for milk sold within the state wherever produced, including minimum wholesale and retail prices for milk sold by milk dealers to consumers. After competitive bidding the Penn Dairy was awarded the contract to supply milk to a United States military encampment located in Pennsylvania on lands owned by the state. The contract price was lower than that authorized by the Milk Control Commission, and the Commission refused to renew the plaintiff's dealer's license as a penalty for this violation of its orders. The dairy claimed that the state could not validly regulate the price at which it sold milk to the United States. The Court rejected this view and held the state regulations applicable.

It is clear that Congress could by law make state regulations of this sort inapplicable to sales to the Government. It has not done so. Nor can such immunity from the state regulations be reasonably inferred from the constitutional relations between the state and Federal governments in our Federal system. The state price regulations do not hit the Government or any of its officers directly. They may purchase milk "from whom and at what price they will, without incurring penalty." The Federal Government's only interest in the matter arises from the fact that under the state regulations it may have to pay a higher price for milk than it otherwise would. Recent decisions of the Court have held that such financial burdens indirectly imposed do not invalidate the regulations from which they arise. They are to be regarded "as the normal incidents of the operation within the same territory of a dual system of government, and . . . no immunity of the national government from such burdens is to be implied from the Constitution which established the system." Nor does the state price regulation conflict with any Congressional legislation or policy. It does not run counter to the requirements of various Federal statutes that supplies shall be bought after competitive bidding from the lowest bidder. There is plenty of evidence that Congress does not always insist upon the lowest possible price in government contracts. It has often stipulated that the goods that it buys be "American-made" or be produced under acceptable labor conditions. The Court, therefore, can not imply a Congressional insistence upon purchasing at the lowest competitive price at the expense of the interest of the state of Pennsylvania in the stabilization of her milk supply through price control.

The opposite result is reached, however, in *Pacific Coast Dairy v. Department of Agriculture* (March 1), in which the state of California tried to enforce its milk price control law against a dairy selling milk under contract to the United States Army at Moffett Field. There is a controlling difference between the two cases. Moffett Field is under the exclusive jurisdiction of the United States by virtue of its cession to the Federal Government by the state. In view of this exclusive jurisdiction, which did not exist in the Pennsylvania case, it follows "that contracts to sell and sales consummated within the enclave can not be regulated by California law."

STATE POLICE POWER AND INTERSTATE COMMERCE

Parker v. Brown (Jan. 4) raised the question whether the marketing program adopted for the 1940 raisin crop under the California Agricultural Prorate Act is invalid by reason of conflict with the Sherman Act, the Agricultural Marketing Act, or as an obstruction of interstate commerce. The marketing regulations in question rigorously limited the conditions under which producers might sell their crops. They included restrictions upon the bulk of free sales, the prices to be charged, and created a stabilization pool, and other devices to protect the industry against overproduction and excessive competition. Ninety-five per cent of California's raisins are shipped out of the state, and it was not denied that the marketing regulations substantially affected the flow of interstate commerce in raisins.

The Supreme Court held the state regulations valid. The restraints on price levels and on competition do not bring the program within the reach of the Sherman Act since the Sherman Act does not restrict state activities but only the actions of individuals. Nor is the state program invalid because it conflicts with or lies in a field preempted by the Agricultural Marketing Act. This Act plainly contemplates cooperation between the states and the Federal Government in the field occupied. Federal marketing programs are similar in all major respects to the one set up by California, and there is no evidence whatever of an intention on the part of Congress to render state control of marketing invalid in the fields in which the Secretary of Agriculture has set up no Federal program. There is no violation of the Commerce Clause. It is true that commerce is affected by the state regulations, but the effects are not disadvantageous, and they lie in a field which may appropriately be left to state control until Congress occupies it.

The same tolerance for state regulation was shown by the Court in *Terminal Railroad Association v. Brotherhood of Railroad Trainmen* (Jan. 18). The Association has terminal facilities and renders terminal services to numerous railroads in and about East St. Louis, Ill. Its operations comprise the sorting and switching of cars, many of which are destined to cross the river into Missouri. Through the Brotherhood, the trainmen and switchmen employed by the Association persuaded the Illinois Commerce Commission to order the Association to provide caboose cars on runs within Illinois. It was not denied that cabooses are necessary for the proper protection of the health and safety of the men making up the switching crews. It was also clear that the order, if enforced, would require cabooses to be run across the Illinois line into Missouri on trains thus consigned, or else it would require additional track and switching facilities to permit the cabooses to be detached at the state line.

The validity of the order was attacked as an invalid burden on interstate commerce and a violation of the Railway Labor Act. The Court rejected both contentions. Congress has not occupied this field of regulation, nor has the Interstate Commerce Commission made any superseding requirements under the Federal safety appliance acts, although there is no lack of Federal power in this field. There is no conflict with the Railway Labor Act, since that statute does not deal with the actual working conditions of railroad employees but merely establishes procedures for the settlement of labor disputes. The enforcement of the order will "in some measure retard and increase the cost of movements in interstate commerce." But this does not make it invalid. "In the absence of controlling Federal legislation this Court has sustained a wide variety of state regulations of railroad trains moving in interstate commerce which have such effect."

FEDERAL JUDICIAL POWER

The limits within which the Court exercises its judicial power are exemplified in two cases. In *Tileston v. Ullman* (Feb. 1), the Court was asked to review, on appeal, a declaratory judgment of the Supreme Court of Errors of Connecticut holding valid a state statute prohibiting the use of drugs or instruments to prevent conception, and the giving of advice or counsel in their use. The plaintiff, a physician, alleged that the enforcement of the statute would prevent him from giving professional advice to three patients whose condition of health was such that their lives would be endangered by childbearing, and that it, therefore, threatened a deprivation of life without due process of law within the meaning of the Fourteenth Amendment. In a *per curiam* opinion, the Court held that the plaintiff had no standing to raise this constitutional question, since his own life is obviously not endangered by the operation of the statute and his patients are not parties to the proceeding. He may not secure the adjudication of the constitutional rights of these patients which they do not assert on their own behalf.

In another *per curiam* opinion in *St. Pierre v. United States* (May 3), the Court dismissed, because it had become moot, the case of the petitioner who had been sentenced to five months' imprisonment for contempt of court because of his refusal to divulge before a Federal grand jury the name of the person whose money he had embezzled. He alleged the violation of his right not to incriminate himself. Before the case could be brought to the Supreme Court, the five-month term had been served, and, accordingly, the case was "no longer subject matter on which the judgment of this Court could operate. . . . The sentence can not be enlarged by this Court's judgment, and the reversal of the judgment can not operate to undo what had been done or restore to the petitioner the penalty of the term of imprisonment which he has served." If the petitioner is again asked to testify and again refuses, he may, by resorting to appropriate procedures, invoke judicial review of the issue before the penalty for disobedience is actually paid.

FEDERAL ADMINISTRATIVE AGENCIES

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QUARRY HEIGHTS MILITARY RESERVATION

The changes in Federal administrative organization and the most important events in the field of administration concern the efforts of the President of the United States to promote a more unified and successful prosecution of the war.

By executive order of January 2, 1943, the Quarry Heights Military Reservation was established in the Canal Zone. It is to be under the control and jurisdiction of the Secretary of War except in so far as it is subject to the civil jurisdiction of the Canal Zone authorities in conformity with the Canal Zone Code.

OFFICE OF DEFENSE TRANSPORTATION

On Jan. 4, 1943, the President, as Commander in Chief of the Army and Navy, further defined the functions and duties of the Office of Defense Transportation. He declared that this agency shall include within the scope of its authority all domestic transportation within the territories and possessions of the United States.

By executive order 9341, the President ordered the Director of the Office of Defense Transportation to take immediate possession of the American Railroad Company of Puerto Rico, because its operations were interrupted by labor disputes and the operation of this railroad was necessary for the movement of supplies and food for the armed forces and the civilian population and otherwise essential to the effective prosecution of the war.

The Director of Defense Transportation was ordered to take possession of all real and personal property, franchises, rights, facilities, funds, and other assets tangible and intangible and to operate or arrange for the operation of the railroad in such manner as he deemed necessary. The Director was authorized to run the railroad through or with the aid of such public or private agencies, persons or corporations as he might designate. The Director was to manage or arrange for the management of the railroad under such terms and conditions of employment as he deemed advisable and proper pending the termination of the existing labor dispute. The termination, when made, should be retroactive to the date of the Federal possession of the property of the Railroad.

The National War Labor Board was directed to proceed forthwith after due investigation and hearing to make a final determination of the existing labor dispute.

Except with the prior written consent of the Director of the Office of Defense Transportation no attachment by mesne or garnishee process or otherwise should be levied against any of the railroad property while in the possession of the United States. As part of the terms and conditions of the possession and operation, the Director was authorized in his discretion to make advances from the net cash earnings of the operation of the railroad in such amounts and upon such terms as he deemed desirable for the discharge of the lawful obligations of the railroad company.

Upon request of the Director, the Secretary of War was required to take such action, if any, as he might deem necessary or desirable to provide protection for the railroad property and for persons working for or seeking employment by the railroad. The Director in the exercise of his functions was required to consult with and to cooperate with the Secretary of the interior and the government of Puerto Rico.

CIVIL AIR PATROL

By executive order, 9339, the Civil Air Patrol established in the Office of Civilian Defense and all of its functions, duties, and powers (including those of the National Commander of Civilian Air Patrol) were transferred to the Department of War to be administered under the direction and supervision of the Secretary of War by such persons, officers, commands or agencies under his jurisdiction as he may direct. All property, including records, files, supplies, furniture, and equipment, and civilian and military personnel of the Office of Civilian Defense primarily used in the administration of its functions were transferred to the War Department.

INTERDEPARTMENTAL COMMITTEE TO CONSIDER SUBVERSIVE ACTIVITY BY FEDERAL EMPLOYEES

By executive order of Feb. 5, 1943, there was established within the Department of Justice a committee of five members to be appointed by the President from among the officers and employees of the departments, independent establishments, and agencies of the Federal Government. The committee shall choose its own officers and shall serve as an advisory and coordinating agency. It shall deal with all matters pertaining to the investigation and disposition of complaints of subversive activities on the part of employees of the executive branch of the Federal Government, except those who are on conditional appointment subject to the results of an investigation which is still pending, and shall initiate such measures as are best suited in its judgment to assure fair and prompt disposition of complaints and to protect the interests of the Government of the United States. The Committee shall take no action concerning employees of the Navy Department or the War Department except upon the request of the Secretary of War or the Secretary of the Navy.

The departments, independent establishments, and agencies of the Federal Government shall refer all complaints together with all available information pertaining thereto to the Federal Bureau of Investigation in the Department of Justice for information or investigation. The Committee shall consider general classes of complaints, or particular complaints upon request of the Department of Justice and shall recommend appropriate policies to govern the investigation of such complaints. The Committee shall receive all completed investigative reports made by the Federal Bureau of Investigation on complaints and shall advise the departments, independent establishments, and agencies concerning the procedures for determining action thereon.

The departments, independent establishments, and agencies of the Government were directed to report to the Committee within a reasonable period of time the procedures followed and the action taken on all cases referred by the Committee. The Committee in return must report forthwith to the Federal Bureau of Investigation the action taken by the employing department, independent establishment, or agency. Upon a request from an employing department, independent establishment, or agency the Committee may review the record in any case and return an advisory opinion concerning the disposition of the case.

Whenever the requirements of internal security appear to the committee to have been insufficiently considered in connection with the disposition of an executive report, the Committee may review the case on its own motion and transmit its recommendation to the employing department. In time of war or other national emergency, upon a finding that internal security will be endangered by recourse to the procedures authorized, the Committee may recommend to the President such special action in exceptional cases as internal security may require.

The procedure of the Committee is not intended to bar or limit the authority of any department, independent establishment, or agency to suspend an employee as provided by law or to bar an immediate arrest and the transfer to court jurisdiction of any case in which the Department of Justice finds that such action is warranted, or to restrict the powers and responsibilities of the Civil Service Commission in connection with its review of disciplinary or administrative action against an employee. The Department of Justice is required to supply such clerical, stenographic, and other assistance and materials as may be necessary to the operation of the Committee. Members of the Committee are to serve without compensation.

WAR CONTRACTS

By executive order of Jan. 30, 1943, paragraph 1 of Title II of Executive Order No. 9001 of Dec. 27, 1941, requiring the War Department, the Navy Department, and the United States Maritime Commission to report to the President with respect to all contracts and purchases was amended so as to read as follows: "Complete data shall be maintained in the War Department, the Navy Department and the United States Maritime Commission as to all contracts and purchases which they respectively make pursuant to the Act and this executive order. The Secretary of War, the Secretary of the Navy and the Chairman of the United States Maritime Commission shall make available for public inspection as they may respectively deem compatible with the public interest, so much of such data as does not cover restricted, confidential or secret contracts or purchases." The order is made effective as of Dec. 27, 1941.

OFFICE OF NUTRITION

By executive order of March 6, 1943, the functions, powers, and duties with respect to nutrition (a) of the Office of Defense Health and Welfare services in the Office for Emergency Management of the Executive Office of the President, and (b) of the Director of the Office of Defense Health and Welfare were transferred to the Department of Agriculture. All unexpended balances and funds allocated to the above services were also transferred.

FOOD PRODUCTION ADMINISTRATION

By executive order of March 26, 1943, the Food Production Administration, except the Farm Credit Administration, the Food Distribution Administration, the Commodity Credit Corporation, and the extension services were consolidated within the Department of Agriculture into an Administration of Food Production and Distribution to be under the direction and supervision of an administrator. The administrator is appointed by the President and is to be directly responsible to him. The Secretary of Agriculture will continue as chairman of the Interdepartmental Committee and as a member of the War Production Board. The Secretary will also continue as the American member of the Combined Food Board. By executive order of April 19, 1943, the War Food Administration was set up within the Department of Agriculture.

CENTRAL ADMINISTRATIVE SERVICES OF THE OFFICE FOR EMERGENCY MANAGEMENT

The fiscal functions performed by the Division of Central Administrative Services of the Office of Emergency Management with respect to the Office of Price Administration and the War Production Board in the District of Columbia, and in the field (including but not limited to appropriation and allotment, accounting, payroll preparation and administrative examination, certification and scheduling of vouchers but not including procurement) were transferred to the Office of Price Administration and the War Production Board.

The function of recruitment of personnel in the field performed by the Division with respect to the Office for Emergency Management, the constituent agencies thereof, and the Office of Price Administration were transferred to the United States Civil Service Commission.

The function of Classification of field positions which are subject to the grade and classification Act of 1923, as amended, performed by the above Division with respect to the Office for Emergency Management and the Office of Price Administration were also transferred to the Civil Service Commission to be exercised in accordance with the following requirements:

(a) The Civil Service Commission shall formulate standards for the proper classification of field positions in accordance with the grades and salaries prescribed by the classification acts.

(b) The heads of the Office for Emergency Management and its constituent agencies, and the Office for Price Administration shall each acting through its designated representations (1) allocate field positions in his agency in accordance with the standards formulated by the Civil Service Commission, and (2) refer to the Commission for allocation such field positions as are not covered by the standards formulated by the Commission.

(c) The Civil Service Commission was directed (1) to make the necessary post audits to verify conformity with the standards of allocation formulated by the Commission, and (2) report any erroneous allocations to the head of the agency concerned for correction or satisfactory explanation.

OFFICE OF ECONOMIC WARFARE

By executive order of July 15, 1943, the Board of Economic Warfare was terminated and an Office of Economic Warfare was established in the Office for Emergency Management. At the head of the new Office is a director appointed by the President. The director shall exercise the functions, powers, and duties of the Board of Economic Warfare. The director receives such salary, travel, subsistence, and other allowances as the President may determine. All unexpended balances and funds, as well as the personal property and records, were transferred from the Board to the Office of Economic Warfare.

The United States Commercial Company, the Rubber Development Corporation, the Petroleum Reserve Corporation, the Import-Export Bank of Washington, and their functions, powers, and duties, together with those of the Reconstruction Finance Corporation and of the Secretary of Commerce with respect to them, were transferred to the Office of Economic Warfare.

The Director of Economic Warfare may reconstitute the boards of directors of the above corporations and take such other action as he deems necessary to carry out the purposes of the order.

The funds necessary for the management of the transferred activities shall be supplied by the Director of War Mobilization on request of the Director of the Office of Economic Warfare. The transfer of functions, powers, and duties, and outstanding contract obligations relating to transactions in or pertaining to foreign countries shall, unless otherwise determined by the director of War Mobilization, be under his supervision.

The Functions of the Office of War Mobilization shall include the authority to arrange for the unification and coordination of the activities of the Federal Government relating to foreign supply, foreign procurement, and other foreign economic affairs in conformity with the foreign policy of the United States as defined by the Secretary of State. In providing for such unification the Office of War Mobilization may utilize the facilities of other departments and agencies, including the machinery for the coordination of foreign economic affairs established by the Department of State.

DEFENSE HEALTH AND WELFARE SERVICES

By executive order of May 1, 1943, the Office of Defense Health and Welfare Services established in September, 1941 in the Office for Emergency Management was abolished. The functions, duties, and powers of the Service were transferred to the Federal Security Agency along with the Health and Medical Committee and the other advisory committees and subcommittees. The functions, duties, and powers transferred are to be administered under the direction and supervision of the Federal Security Administrator through an office established by him which is to be known as the Office of Community War Services, or through such other offices, agencies, officers, and persons in the Federal Security Agency as he shall designate and in such manner as he shall direct.

NATIONAL YOUTH ADMINISTRATION

By the authority of Congress the National Youth Administration was abolished on July 1, 1943. The Administration was given till Jan. 1, 1944 to wind up the affairs of the agency. Chester Lund, the administrator said that during the eight years of the agency's existence one out of every seven persons in the United States within the age limits 16 to 25 and at one time 18 to 25 was given some kind of aid by the NYA.

OFFICE OF WAR MOBILIZATION

By executive order of May 27, 1943, the Office of War Mobilization was established in the Office for Emergency Management which is located in the Executive Office of the President. There is established in the new Office of War Mobilization a Committee of which the Director of War Mobilization is chairman. The Committee shall consist, in addition to the director, of the Secretary of War, Secretary of the Navy, Chairman of the Munitions Assignment Board, Chairman of the War Production Board, and the Director of Economic Stabilization. The chairman shall request the heads of other agencies or departments to participate in the deliberations of the Committee whenever matters specially affecting such agencies or departments are under consideration. It shall be necessary for the heads of the agencies and departments to supply appropriate data to the director and the Committee.

The functions of the Office of War Mobilization acting in consultation with the Committee and subject to the direction and control of the President shall be as follows: (a) to develop unified programs and establish policies for the maximum use of the nation's natural and industrial resources for military and civilian needs, for the effective use of the national manpower not in the armed forces, for the maintenance and stabilization of the civilian economy, and for the adjustment of such economy to war needs and conditions; (b) to unify the activities of Federal agencies and departments engaged in or concerned with the production, procurement, distribution, or transportation of military or civilian supplies, materials, and products and to resolve and determine controversies between such agencies or departments, except those to be resolved by the Director of Economic Stabilization; (c) to issue such directives on policy or operations to the Federal agencies or departments as may be necessary to carry out the program developed, the policies established, and the decisions made under this order. It was made the duty of the agencies and departments to execute the directives and to maks such progress reports to the Office of War Mobilization as might be required.

WAR SHIPPING ADMINISTRATION

By executive order of June 10, 1943, the War Shipping Administration was authorized to exercise until six months after the termination of the present war the power to purchase, requisition, charter, requisition the use of, or take over the title to or possession of foreign merchant vessels lying idle in the waters within the territorial jurisdiction of the United States, including the Philippine Islands and the Canal Zone. Any such vessels so acquired may be documented under the laws of the United States or of a foreign country. All acts of the War Shipping Administration subsequent to June 30, 1942, with respect to the things herein authorized, were ratified by the President in this order.

NATIONAL WAR LABOR BOARD

By executive order of Nov. 20, 1943, the order governing the organization of the War Labor Board was amended so as to provide for the appointment by the President, for such periods of service as he might prescribe, of alternate public members of the National War Labor Board. Not more than four public members shall hold office at any one time. Such alternate public members shall receive salaries at the rate of $9,000 each per annum and shall perform such functions as the National War Labor Board may require. When called upon by the Board they shall sit as voting members of the Board, but not more than four public members, regular or alternate, shall vote in any one case.

FOREIGN ECONOMIC ADMINISTRATION

By executive order of Sept. 25, 1943, there was established in the Office for Emergency Management of the Executive Office of the President the Foreign Economic Administration. The Office of Lend Lease Administration, the Office of Foreign Relief and Rehabilitation Operations, the Office of Economic Warfare (together with the corporations agencies and functions transferred to it by executive order of July 15, 1943), the Office of Foreign Economic Coordination, except such functions and personnel as the Director of the Budget should determine or are not concerned with foreign economic operations, were transferred to and consolidated in the Foreign Economic Administration.

The powers and functions of the Administration shall be exercised in conformity with the foreign policy of

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the United States as defined by the Secretary of State. As soon as military operations permit, the Administration shall assume responsibility for and control of all activities of the United States Government in liberated areas with respect to supplying the requirements of and procuring the materials in such areas.

NECESSITY CERTIFICATES

By executive order of Dec. 17, 1943, the functions with respect to necessity certificates were transferred from the Secretary of the Navy and the Secretary of War to the Chairman of the War Production Board. The purpose of the transfer is to permit the Chairman of the War Production Board more effectively to carry out his responsibilities with respect to the regulation of production and supply of articles and materials required for the national defense. Necessity certificates shall not be issued unless the chairman of the War Production Board has determined prior to the beginning of construction, reconstruction, erection, or installation or the date of acquisition of facilities (1) that the facilities to be constructed or acquired are clearly necessary for the War effort and (2) that it is to the advantage of the Government that such additional facilities be privately financed.

SEIZURE OF INDUSTRIAL AND TRANSPORTATION ORGANIZATIONS

By executive order of May 1, 1943, the Secretary of the Interior was directed to take immediate possession, so far as necessary or desirable, of any and all mines producing coal in which a stoppage of operation was threatened because of strikes.

An executive order of Nov. 20, 1943, authorized the Secretary of War to seize and operate 13 leather manufacturing plants in Salem, Danvers, and Peabody, Mass. The plants were restored Dec. 13, 1943.

By executive order of Nov. 1, 1943, the President again directed the Secretary of the Interior to take immediate possession of any and all coal mines in which a stoppage was threatened because of strikes.

By executive order of Sept. 3, 1943, the War Shipping Administrator was directed to take possession of and operate the plant of the Atlantic Basin Iron Works located at Brooklyn N.Y.

By executive order of Dec. 3, 1943, the Secretary of the Navy was directed to seize and operate the Shipyards of the Los Angeles Shipbuilding and Dry Docks Corporation at Los Angeles, Calif. which had entered into contracts with the Navy Department. By a similar order the Secretary of the Navy was authorized to seize and operate a part of the plant of Remington and Rand at Southport, N. Y.

By executive order of Dec. 19, 1943, the Secretary of War was directed to seize and operate the Breeze Point plants and facilities of the Western Electric Company in and near Baltimore, Md.

On Dec. 27, 1943, the President ordered the Secretary of War to seize and operate all common carriers by railroad, express companies, terminal companies and associations, sleeping, parlor, and railroad-owned or controlled private car companies located in the continental United States.

ELECTIONS OF 1943

By Thomas N. Hoover
Professor, Ohio University

NEW DEAL TRENDS

The elections of 1943 were few, but of importance, in that they indicated an even greater trend away from the New Deal than was indicated by the elections of 1942, when the Republicans almost captured the House of Representatives.

With the election of Republican Governors in New Jersey and Kentucky in the 1943 elections, the Republicans now have 26 of the 48 governorships. The states now Republican furnish many more than enough electoral votes to elect a Republican president in 1944. The tide of Republicanism has apparently been too much for New Dealism. As this is being written, there are indications that the name "New Deal" is to give way to "Win the War" party. It would be a blunder that should not be made to designate any party as "Win the War" party. Republicans as well as New Dealers are contributing to the winning of the war. Should President Roosevelt call his party the "Win the War" party, he would be hitting far below the belt. It is hoped that he will make no further use of his "Doctor Win the War".

KENTUCKY

In Kentucky the Republicans elected their candidate for Governor, Simeon S. Willis, over his Democratic opponent, J. Lyter Donaldson, by the vote of 279,144 to 270,525. Also in Kentucky, to fill a vacancy in the Fourth Congressional District, Republican, Chester O. Carrier defeated the Democratic candidate, J. Dan Talbott, by the vote of 29,855 to 17,218.

NEW JERSEY

In New Jersey, Walter E. Edge, Republican, defeated Vincent J. Murphy, Democrat, 634,364 to 506,604, in the contest for the governorship. John C. Butterworth, Soc.-Labor, received, 4,587, Roy V. Wilkinson, Soc., 1,563, and John Binns, Nat. Prohibition, 2,074. Edge carried every county in the state except Camden, Hudson, and Middlesex, with a plurality over his Democratic opponent of 127,764.

NEW YORK

Considerable interest was shown in the election of a Lieutenant Governor in New York. The Republican candidate, Sen. Joe R. Hanley, was supported by Dewey and Willkie. The Democratic candidate, Gen. William N. Haskell, was supported by all factions of the party, and was also the candidate for the American Labor Party. Inclusive of the soldier vote, Hanley's vote was 1,846,314, to Haskell's vote of 1,171,976 Democratic votes, including 321,106 American Labor Party votes, for a total of 1,493,082, thus giving the Republican a majority of 353,232 votes. To fill the vacancy in the 32nd Congressional District, the candidates were: Hadwen C. Fuller, Rep., 42,526; Norman F. Ward, Dem., 15,430.

PENNSYLVANIA

The vacancy in the 23rd Congressional District in Pennsylvania was filled by the election of D. Emmert Brumbaugh, Rep., over Edna Marsden, Dem., by the vote of 34,495 to 23,578.

MISSISSIPPI

Thomas L. Bailey, who won the nomination over Lieutenant Governor Dennis Murphree in the Democratic primary, was elected governor with no opposition in the election. However, on the death of Governor Paul B. Johnson on Dec. 26, Murphree took over the office, until Bailey's succession on Jan. 18, 1944.

REPRESENTATIVES IN CONGRESS

At the close of 1943, there were five vacancies in the House of Representatives. Nichols, of Second Oklahoma and McGranery of Second Pennsylvania resigned. Ditter, 17th Pennsylvania, Steagall, Third Alabama, and Lewis, First Colorado, died in office. All except Ditter were Democrats. The Republicans have a good chance to fill four of these five vacancies.

PERIODICAL PUBLICATIONS

American Mercury
570 Lexington Ave., New York City.

American Political Science Review
Madison, Wis.

American Spectator
683 Broadway, New York City.

Commonweal, The
386 Fourth Ave., New York City.

Congressional Digest
2131 LeRoy Place N.W., Washington, D. C.

Current History
225 Varick Street, New York City.

Journal of Political Economy
5750 Ellis Ave., Chicago.

Nation, The
55 Fifth Ave., New York City.

New Republic, The
40 East 49th Street, New York City.

News-Week
152 West 42nd Street, New York City.

Political Science Quarterly
Columbia University, New York City.

Time Weekly Newsmagazine (The)
9 Rockefeller Plaza, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Antiquarian Society, Salisbury and Park Ave., Worcester Mass.

American Baptist Historical Society, Upland Avenue, Chester, Pa.

American Catholic Historical Association, Catholic University, Brookland Station, Washington, D. C.

American Historical Assn., Library of Congress Annex, Study Room 274, Washington, D. C.

American Irish Historical Society, 991 Fifth Ave., New York City.

American Jewish Historical Society, 3080 Broadway, New York City.

American Numismatic Society, 156th Street at Broadway, New York City.

American Scenic and Historic Preservation Society, 287 Convent Avenue, New York City.

American Society of Church History, 5757 University Ave., Chicago, Ill.

Canadian Historical Assn., Ottawa, Canada.

Freethinkers of America Inc., 370 West 35th Street, New York City.

Hispanic Society of America, Broadway between 155th and 156th St., New York City.

Holland Society of New York, 90 West Street, New York City.

Huguenot Society of America, 122 East 58th Street, New York City.

Methodist Historical Society, 150 Fifth Ave., New York City.

Mississippi Valley Historical Assn Cedar Rapids, Iowa.

New England Historic Genealogi-

CAL SOCIETY, 9 Ashburton Place, Boston. Mass.

PRESBYTERIAN HISTORICAL SOCIETY, 520 Witherspoon Building, Philadelphia, Pa.

PROPORTIONAL REPRESENTATION LEAGUE. 1417 Locust St., Philadelphia, Pa.

SOCIETY FOR THE PRESERVATION OF NEW ENGLAND ANTIQUITIES, 141 Cambridge St., Boston, Mass.

STEUBEN SOCIETY OF AMERICA, 369 Lexington Ave., New York City.

THOMAS PAINE NATIONAL HISTORICAL ASSN., North Ave., New Rochelle, N. Y.

UNITED STATES CATHOLIC HISTORICAL SOCIETY, 346 Convent Ave., New York City.

WOODROW WILSON FOUNDATION, THE, 8 West 40th Street, New York City.

POLITICAL

ACADEMY OF POLITICAL SCIENCE, Fayerweather Hall, Columbia University, New York City.

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN POLITICAL SCIENCE ASSN., 105 Harris Hall, Northwestern University, Evanston, Ill.

LEAGUE FOR INDUSTRIAL DEMOCRACY, 112 E. 19th Street, New York City.

WOMEN'S NATIONAL DEMOCRATIC CLUB INC., 50 West 45th St., New York City.

WOMEN'S NATIONAL REPUBLICAN CLUB, 3 West 51st Street, New York City.

DIVISION II

INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

THE UNITED STATES IN WARTIME

By Wheeler B. Preston
Author and Publicist

CASABLANCA CONFERENCE

While the armed forces of the United Nations were inflicting upon the Axis enemy defeats in every field, the year 1943 was marked by a series of momentous conferences between national leaders which boded ill for the enemy in war. Those conferences were fraught with high promise of a more stable world order when the conflict should end.

In January President Roosevelt traveled to North Africa with his personal advisers, and for ten days he was in close conference with British Prime Minister Winston Churchill and the joint chiefs of staff. With the campaign in Tunisia still in progress, plans were laid at Casablanca for the invasion of Sicily and the subsequent attack upon the Italian mainland. Marshal Stalin received a cordial invitation to attend the conference, "in which case the meeting would have been held very much farther to the east," but he decided that it was not feasible for him to leave Russia at that juncture.

The joint communique issued at the conclusion of the conference naturally failed to indicate the decisions reached, but it was generally understood that political factors were subordinated at that time to military considerations. On his way back from North Africa the President paused briefly at Monrovia, Liberia where he reviewed the garrison of United States troops and met members of the Liberian Government, and he spent Jan. 28-29 in Brazil, conferring with President Getulio Vargas aboard a United States destroyer in the Potengi River harbor at Natal. Discussions took place concerning Brazil's part in the war program of the United Nations, and particularly measures to be taken by Brazil to combat the submarine menace in the South Atlantic.

The text of the joint communique follows:

"On January 26, 1943, at 10 P.M. EWT. the following communique, cabled from Casablanca, Morocco, was made public:

"The President of the United States and the Prime Minister of Great Britain have been in conference near Casablanca since January 14.

"They were accompanied by the combined Chiefs of Staff of the two countries; namely—

"For the United States:

"Gen. George C. Marshall, Chief of Staff of the United States Army; Admiral Ernest J. King, Commander in Chief of the United States Navy; Lt. Gen. H. H. Arnold, commanding the United States Army Air Forces; and

"For Great Britain:

"Admiral of the Fleet Sir Dudley Pound, First Sea Lord; Gen. Alan Brooke, Chief of the Imperial General Staff; and Air Chief Marshal Sir

Charles Portal, Chief of the Air Staff.

"These were assisted by:

"Lt. Gen. B. B. Somervell, Commanding General of the Services Supply, United States Army; Field Marshal Sir John Dill, head of the British Joint Staff Mission in Washington; Vice Admiral Lord Louis Mountbatten, Chief of Combined Operations; Lt. Gen. Sir Hastings Ismay, Chief of Staff to the Office of the Minister of Defense, together with a number of staff officers of both countries.

"They have received visits from Mr. Murphy (Robert Murphy, United States Minister to French North Africa) and Mr. MacMillan (Harold MacMillan, British Resident Minister for Allied Headquarters in North Africa); from Lt. Gen. Dwight D. Eisenhower, Commander in Chief of the Allied Expeditionary Force in North Africa; from Admiral of the Fleet Sir Andrew Cunningham, naval commander of the Allied Expeditionary Force in North Africa; from Maj. Gen. Carl Spaatz, air commander of the Allied Expeditionary Force in North Africa; from Lt. Gen. Mark W. Clark, United States Army (Commander of the United States Fifth Army in Tunisia), and, from Middle East Headquarters, from Gen. Sir Harold Alexander, Air Chief Marshal Sir Arthur Tedder and Lt. Gen. F. M. Andrews, United States Army.

"The President was accompanied by Harry Hopkins (Chairman of the British-American Munitions Assignments Board) and was joined by W. Averell Harriman (United States Defense Expediter in England).

"With the Prime Minister was Lord Leathers, British Minister of War Transport.

"For 10 days the combined staffs have been in constant session, meeting 2 or 3 times a day and recording progress at intervals to the President and the Prime Minister.

"The entire field of the war was surveyed theater by theater throughout the world, and all resources were marshaled for a more intense prosecution of the war by sea, land, and air.

"Nothing like this prolonged discussion between two allies has ever taken place before. Complete agreement was reached between the leaders of the two countries and their respective staffs upon war plans and enterprises to be undertaken during the campaigns of 1943 against Germany, Italy, and Japan with a view to drawing the utmost advantage from the markedly favorable turn of events at the close of 1942.

"Premier Stalin was cordially invited to meet the President and the Prime Minister, in which case the meeting would have been held very much farther to the east. He was unable to leave Russia at this time on account of the great offensive which he himself, as Commander in Chief, is directing.

"The President and the Prime Minister realized up to the full the enormous weight of the war which Russia is successfully bearing along her whole land front, and their prime object has been to draw as much weight as possible off the Russian armies by engaging the enemy as heavily as possible at the best selected points.

"Premier Stalin has been fully informed of the military proposals.

"The President and the Prime Minister have been in communication with Generalissimo Chiang Kai-shek. They have apprised him of the measures which they are undertaking to assist him in China's magnificent and unrelaxing struggle for the common cause.

"The occasion of the meeting between the President and the Prime Minister made it opportune to invite General Giraud (General Henri Honoré Giraud, High Commissioner of French Africa) to confer with the Combined Chiefs of Staff and to arrange for a meeting between him and General de Gaulle (General Charles de Gaulle, Fighting French Commander). The two generals have been in close consultation.

"The President and the Prime Minister and their combined staffs, having completed their plans for the offensive campaigns of 1943, have now separated in order to put them into active and concerted execution."

QUEBEC

On April 20, 1943, after a week spent in touring the United States military camps, President Roosevelt crossed the border into Mexico to meet President Manuel Avila Camacho at Monterrey. This was the first meeting in 34 years between the heads of the two countries. At a state dinner both executives stressed the importance of the "Good-Neighbor policy," which they held out as a pattern for the world after the war, and Mr. Roosevelt urged a world in which the people and resources of a country would not be exploited by others. The visit ended the second day at the naval air training station at Corpus Christi, Tex., where a number of Mexican cadets were undergoing instruction.

On May 11 Prime Minister Churchill arrived in Washington for another meeting with the President but, as customary, little leaked out concerning their conversations. By the end of the month the Prime Minister, accompanied on this occasion by Foreign Minister Anthony Eden, was back in North Africa, where he conferred in Algiers with Gen. George C. Marshall, chief of staff of the United States Army, and other Allied military leaders. These talks were concluded early in June, and by the beginning of August Winston Churchill had arrived once more in North America. He traveled from Canada to visit the President at Hyde Park in the middle of the month, and on Aug. 17 Mr. Roosevelt reached Quebec to participate in conferences with British and Canadian leaders.

Both military and diplomatic representatives of the three countries, and the Chinese Ambassador to the United States, attended the Quebec conference, but since the discussions turned largely on the war with Japan, the Russians were not represented. Agreement was reached on rendering effective aid to China, as well as on political issues underlying or rising out of the military operations; but military decisions arrived at would only, in the words of the official communique of Aug. 24, "emerge in action." It was surmised that the decision to invade Europe from the west in 1944 was also taken at Quebec.

The following is the text of the joint statement issued by the President and Prime Minister:

"The Anglo-American war conference which opened at Quebec on Aug. 11 under the hospitable auspices of the Canadian Government has now concluded its work.

"The whole field of world operations has been surveyed in the light of the many gratifying events which have taken place since the meeting of the President and the Prime Minister in Washington at the end of May and the necessary decisions have been taken to provide for the forward actions of the Fleets, Armies and Air Forces of the two nations.

"Considering that these forces are intermingled in continuous action against the enemy in several quarters of the globe, it is indispensable that entire unity of aim and method should be maintained at the summit of the war direction.

"Further conferences will be needed, probably at shorter intervals than before, as the war effort of the United States and the British Commonwealth and Empire against the enemy spreads and deepens.

"It would not be helpful to the fighting troops to make any announcements of the decisions which have been reached. These can only emerge in action.

"It may, however, be stated that the military discussions of the Chiefs of Staff turned very largely upon the war against Japan and the bringing of effective aid to China. Mr. T. V. Soong, representing the Generalissimo Chiang Kai-shek, was a party to the discussions. In this field, as in the European, the President and the Prime Minister were able to receive and approve the unanimous recommendations of the combined Chiefs of Staff. Agreement was also reached upon the political issues underlying or arising out of the military operations.

"It was resolved to hold another conference before the end of the year between the British and American authorities, in addition to any tripartite meeting which it may be possible to arrange with Soviet Russia. Full reports of the decisions so far as they affect the war against Germany and Italy will be furnished to the Soviet Government.

"Consideration has been given during the conference to the question of relations with the French Committee of Liberation, and it is understood that an announcement by a number of governments will be made in the latter part of the week."

On Aug. 25 Mr. Roosevelt visited Ottawa, being the first United States President to do so, and in a public address on Parliament Hill he asserted that "we are going to be rid of outlaws this time."

MOSCOW

A long-anticipated conference between Allied foreign ministers was held in Russia in September. Opening in Moscow on the 19th of the month, the meeting took place between Foreign Commissar Vyacheslaff M. Molotoff, Secretary of State Cordell Hull (who made his first airplane trip for the purpose) and Foreign Secretary Anthony Eden. Talks between these statesmen continued until the end of the month, when it was announced that their governments had agreed to greater collaboration in the conduct of the war and on a number of practical steps to organize for victory on the basis of unconditional surrender of the enemy.

It was proposed to establish in London a European Advisory Commission to make plans and recommendations to the three governments on multifarious subjects and to serve as a clearing house for Allied information. This body had its first meeting on Dec. 15, 1943, the three permanent delegates being Russian Ambassador Fedor T. Guseff, Ambassador John G. Winant of the United States and Sir William Strang of the British Foreign Office.

As a separate action, the statesmen in Moscow signed a declaration favoring re-establishment of the independence of Austria, the first country to become a victim of Hitler's aggression, and at the same time Marshal Stalin, President Roosevelt, and Prime Minister Churchill published a demand that the German war criminals be sent back to the countries "in which their abominable deeds were done in order that they may be judged and punished according to the laws of those liberated countries which will be created therein."

The three Foreign Secretaries also agreed to establish an Advisory Council for matters relating to Italy, to be composed in the first instance of representatives of their three governments and of the French Committee of National Liberation; provision was made for addition to this council of representatives of Greece and Yugoslavia, in view of their special interests arising out of aggressions of Fascist Italy upon their territory during the war. On Nov. 22 it was announced simultaneously in Washington and London that the American and British members of the Advisory Council to the Allied Control Commission for Italy were, respectively, Robert D. Murphy, who had been theretofore American representative to the French Committee of National Liberation, and Harold Macmillan, who also retained his post as Resident Minister at Allied Headquarters in North Africa.

With the approval of the Chungking Government, Foo Ping-sheung, Chinese Ambassador to Moscow, joined the three Foreign Ministers in signing a pledge to create an international organization for the maintenance of future world peace and security with the least diversion of the world's human and economic resources for armaments.

The following are the texts of the

four documents issued at the Moscow Conference:

JOINT FOUR-NATION DECLARATION

"The governments of the United States of America, the United Kingdom, the Soviet Union and China:

"United in their determination, in accordance with the declaration by the United Nations of Jan. 1, 1942, and subsequent declarations, to continue hostilities against those Axis powers with which they respectively are at war until such powers have laid down their arms on the basis of unconditional surrender;

"Conscious of their responsibility to secure the liberation of themselves and the peoples allied with them from the menace of aggression;

"Recognizing the necessity of ensuring a rapid and orderly transition from war to peace and of establishing and maintaining international peace and security with the least diversion of the world's human and economic resources for armaments;

"Jointly declare:

1—That their united action, pledged for the prosecution of the war against their respective enemies, will be continued for the organization and maintenance of peace and security.

2—That those of them at war with a common enemy will act together in all matters relating to the surrender and disarmament of that enemy.

3—That they will take all measures deemed by them to be necessary to provide against any violation of the terms imposed upon the enemy.

4—That they recognize the necessity of establishing at the earliest practicable date a general international organization, based on the principle of the sovereign equality of all peace-loving States, and open to membership by all such States, large and small, for the maintenance of international peace and security.

5—That for the purpose of maintaining international peace and security pending the re-establishment of law and order and the inauguration of a system of general security, they will consult with one another and as occasion requires with other members of the United Nations with a view to joint action on behalf of the community of nations.

6—That after the termination of hostilities they will not employ their military forces within the territories of other States except for the purposes envisaged in this declaration and after joint consultation.

7—That they will confer and cooperate with one another and with other members of the United Nations to bring about a practicable general agreement with respect to the regulation of armaments in the post-war period."

DECLARATION REGARDING ITALY

"The Foreign Secretaries of the United States, the United Kingdom and the Soviet Union have established that their three governments are in complete agreement that Allied policy toward Italy must be based upon the fundamental principle that Fascism and all its evil influence and configuration shall be completely destroyed and that the Italian people shall be given every opportunity to establish governmental and other institutions based upon democratic principles.

"The Foreign Secretaries of the United States and United Kingdom declare that the action of their governments from the inception of the invasion of Italian territory, in so far as paramount military requirements have permitted, has been based upon this policy.

"In furtherance of this policy in the future the Foreign Secretaries of the three governments are agreed that the following measures are important and should be put into effect:

1—It is essential that the Italian Government should be made more democratic by inclusion of representatives of those sections of the Italian people who have always opposed Fascism.

2—Freedom of speech, of religious

worship, of political belief, of press and of public meeting shall be restored in full measure to the Italian people, who shall also be entitled to form anti-Fascist political groups.

3—All institutions and organizations created by the Fascist regime shall be suppressed.

4—All Fascist or pro-Fascist elements shall be removed from the administration and from institutions and organizations of a public character.

5—All political prisoners of the Fascist regime shall be released and accorded full amnesty.

6—Democratic organs of local government shall be created.

7—Fascist chiefs and army generals known or suspected to be war criminals shall be arrested and handed over to justice.

"In making this declaration the three Foreign Secretaries recognize that so long as active military operations continue in Italy the time at which it is possible to give full effect to the principles stated above will be determined by the Commander-in-Chief on the basis of instructions received through the combined chiefs of staff.

"The three governments, parties to this declaration, will, at the request of any one of them, consult on this matter. It is further understood that nothing in this resolution is to operate against the right of the Italian people ultimately to choose their own form of government."

DECLARATION ON AUSTRIA

"The governments of the United Kingdom, the Soviet Union and the United States of America are agreed that Austria, the first free country to fall a victim to Hitlerite aggression, shall be liberated from German domination.

"They regard the annexation imposed on Austria by Germany on March 15, 1938, as null and void. They consider themselves as in no way bound by any changes effected in Austria since that date. They declare that they wish to see re-established a free and independent Austria and thereby to open the way for the Austrian people themselves, as well as those neighboring States which will be faced with similar problems, to find that political and economic security which is the only basis for lasting peace.

"Austria is reminded, however, that she has a responsibility, which she cannot evade, for participation in the war at the side of Hitlerite Germany, and that in the final settlement account will inevitably be taken of her own contribution to her liberation."

STATEMENT ON ATROCITIES

Signed by President Roosevelt, Prime Minister Churchill, and Premier Stalin.

"The United Kingdom, the United States and the Soviet Union have received from many quarters evidence of atrocities, massacres and cold-blooded mass executions which are being perpetrated by Hitlerite forces in many of the countries they have overrun and from which they are now being steadily expelled. The brutalities of Nazi domination are no new thing, and all peoples or territories in their grip have suffered from the worst form of government by terror. What is new is that many of these territories are now being redeemed by the advancing armies of the liberating powers and that in their desperation the recoiling Hitlerites and Huns are redoubling their ruthless cruelties. This is now evidenced with particular clearness by monstrous crimes on the territory of the Soviet Union which is being liberated from Hitlerites and on French and Italian territory.

"Accordingly, the aforesaid three Allied powers, speaking in the interests of the thirty-two United Nations, hereby solemnly declare and give full warning of their declaration as follows:

"At the time of granting of any armistice to any government which may be set up in Germany, those German officers and men and members of the Nazi party who have been responsible for or have taken a consenting part in the above atrocities, massacres and executions will be sent back to the countries in which their abominable deeds were done in order that they may be judged and punished according to the laws of these liberated countries and of the free governments which will be erected therein. Lists will be compiled in all possible detail from all these countries, having regard especially to invaded parts of the Soviet Union, to Poland and Czechoslovakia, to Yugoslavia and Greece, including Crete and other islands; to Norway, Denmark, the Netherlands, Belgium, Luxembourg, France and Italy.

"Thus, Germans who take part in wholesale shooting of Polish officers or in the execution of French, Dutch, Belgian or Norwegian hostages or of Cretan peasants, or who have shared in slaughters inflicted on the people of Poland or in territories of the Soviet Union which are now being swept clear of the enemy, will know they will be brought back to the scene of their crimes and judged on the spot by the peoples whom they have outraged. Let those who have hitherto not imbued their hands with innocent blood beware lest they join the ranks of the guilty, for most assuredly the three Allied powers will pursue them to the uttermost ends of the earth and will deliver them to their accusers in order that justice may be done."

"The above declaration is without prejudice to the case of German criminals whose offenses have no particular geographical localization and who will be punished by joint decision of the governments of the Allies."

FIRST CAIRO CONFERENCE

The capital of Egypt was the scene of two highly important conferences during 1943. The first, which lasted from Nov. 22 to Nov. 29, was between President Roosevelt, Prime Minister Churchill, and Chinese Generalissimo Chiang Kai-shek. Since Soviet Russia was at peace with Japan, the absence of a Russian representative was to be expected. The three Allies in the Japanese war resolved to bring unrelenting pressure against their brutal enemies and, declaring that they were fighting the war to restrain and punish aggression, they renounced gain and territorial expansion for themselves.

China was assured of Anglo-American support in attainment of the most powerful status which she has enjoyed since mediaeval days for, besides stripping Japan of all Pacific islands, seized or occupied since the First World War began in 1914, Manchuria, Formosa, and the Pescadores were to be restored to the Chinese Republic. Japan was also to be expelled from all other territories which she has taken by violence or greed, and Korea was to become, in due course, free and independent. Excluding the case of Korea, the territories which the Allies undertook to restore to China have an area of more than 500,000 square miles and a population of nearly 50,000,000.

Soviet interests in Manchuria, particularly the railroads, and the Sinkiang province, which was virtually a Sino-Russian condominium, received no mention in the communique, nor was anything said concerning the fate of the southern half of the Sakhalin Islands, which had been ceded to Japan after the Russo-Japanese war of 1904-05. Consideration of their future might be weighed by Stalin after he was free from the burden of the war against Germany on Russia's western frontier. The great international port of Shanghai and British-owned Hong Kong likewise were not mentioned. Mme. Chiang Kai-shek, who had addressed a joint session of Congress when visiting the United States during the summer, attended the conference in Cairo, where she proved an able interpreter in the deliberations for her husband.

The text of the statement issued several days after the first Conference at Cairo follows:

"The several military missions

have agreed upon future military operations against Japan.

"The three great Allies expressed their resolve to bring unrelenting pressure against their brutal enemies by sea, land and air. This pressure is already rising.

"The three great Allies are fighting this war to restrain and punish the aggression of Japan.

"They covet no gain for themselves and have no thought of territorial expansion.

"It is their purpose that Japan shall be stripped of all the islands in the Pacific which she has seized or occupied since the beginning of the First World War in 1914, and that all the territories Japan has stolen from the Chinese, such as Manchuria, Formosa and the Pescadores, shall be restored to the Republic of China.

"Japan will also be expelled from all other territories which she has taken by violence and greed.

"The aforesaid three great powers, mindful of the enslavement of the people of Korea, are determined that in due course Korea shall become free and independent.

"With these objects in view, the three Allies, in harmony with those of the United Nations at war with Japan, will continue to persevere in the serious and prolonged operations necessary to procure the unconditional surrender of Japan."

SECOND CAIRO CONFERENCE

The second momentous conference in Cairo was that which Messrs. Roosevelt and Churchill had on Dec. 4-6, 1943, after their meeting with Marshal Stalin at Teheran, with President Ismet Inonu of Turkey and his Foreign Minister, Numan Menemencioglu. Others who participated in the discussions were Sergei A. Vinogradoff, Soviet Ambassador to Ankara, who represented his government; Anthony Eden, Harry Hopkins, and the ambassadors at Ankara of both the United States and Great Britain.

Mr. Churchill had met M. Inonu in Turkey after the Casablanca conference (see "The War and the Near East"), but this was the first occasion any Turkish President ever left his country and was, in fact, contrary to an explicit provision of the country's Constitution. Two days before the leaders left Turkey, their government had given notice of the closing down of the forced labor camps for those delinquent in payment of the capital levy tax (the so-called "Varlik"), the majority of whom were members of the Christian and Jewish minorities in the country. The tax, and the method of treating those unwilling or unable to pay, had been highly disapproved by the British and American governments, who had made informal protests, and therefore the decision to release the delinquents on the eve of the conference was taken as a gesture of goodwill on the part of Turkey.

Remarkable caution was displayed in the wording of the official communique issued at the conclusion of the conference. "The three leaders present at the meeting," it ran, "reviewed the general political situation and xamined at length the policy to be followed, taking into account the joint and several interests of the three countries"; and, after an expression of the closest unity, the statement continued: "The conversations in Cairo have consequently been most useful and most fruitful for future relations between the four countries concerned," the Soviet share in the deliberations being thus noticed. Not even the enemy, however, could deduce with any assurance what had, in fact, been discussed during those three days.

The complete text of the communique follows:

"Mr. Roosevelt, President of the United States of America; M. Ismet Inonu, President of the Turkish Republic, and Mr. Winston Churchill, Prime Minister of the United Kingdom, met in Cairo on Dec. 4, 5 and 6, 1943.

"Mr. Anthony Eden, His Majesty's principal Secretary of State for Foreign Affairs; M. Numan Menemencioglu, Minister of Foreign Affairs of Turkey, and Mr. Harry Hopkins took part in their deliberations.

"Participation in this conference of the head of the Turkish state, in response to the cordial invitation addressed to him by the United States, British and Soviet Governments, bears striking testimony to the strength of the alliance which unites Great Britain and Turkey, and to the firm friendship existing between the Turkish people and the United States of America and the Soviet Union.

"Presidents Roosevelt and Inonu and Prime Minister Churchill reviewed the general political situation and examined at length the policy to be followed, taking into account the joint and several interests of the three countries.

"The study of all problems in a spirit of understanding and loyalty showed that the closest unity existed between the United States of America, Turkey and Great Britain in their attitude to the world situation.

"The conversations in Cairo have consequently been most useful and most fruitful for future relations between the four countries concerned.

"The identity of interests and of views of the great American and British democracies with those of the Soviet Union, as also the traditional relations of friendship existing between these powers and Turkey, have been reaffirmed throughout the proceedings of the Cairo conference."

TEHERAN

The shape of things to come in the near future began to emerge after the Quebec conference and the talks with Chiang Kai-shek, but the picture was clarified still more when President Roosevelt and Mr. Churchill had their long-desired meeting with Marshal Stalin. The three men were together in the Iranian capital from Nov. 28 to Dec. 1, 1943, meeting and dining together constantly. The President was accommodated in a building within the compound of the Russian embassy, and there all plenary sessions were held, at a perfectly round table specially constructed so that none could have precedence by sitting at a head position.

In addition to many senior officers, others who participated in the discussions included Harry Hopkins, Foreign Commissar Molotoff, Foreign Secretary Anthony Eden, and United States Ambassador to Moscow W. Averell Harriman. The Three-Power Declaration dated Dec. 1, 1943, after an introductory preamble, stated:

> "We express our determination that our nations shall work together in the war and in the peace that will follow.
>
> "As to the war, our military staffs have joined in our round-table discussions, and we have concerted our plans for the destruction of the German forces. We have reached complete agreement as to the scope and timing of operations which will be undertaken from the east, west and south. The common understanding which we have here reached guarantees that victory will be ours.
>
> "And as to the peace, we are sure that our concord will make it an enduring peace. We recognize fully the supreme responsibility resting upon us and all nations to make a peace which will command good will from the overwhelming masses of the peoples of the world and banish the scourge and terror of war for many generations.
>
> "With our diplomatic advisers we have surveyed the problems of the future. We shall seek the co-operation and active participation of all nations, large and small, whose peoples in heart and mind are dedicated, as are our own peoples, to the elimination of tyranny and slavery, oppression and intolerance. We will welcome them as they may choose to come into the world family of democratic nations.
>
> "No power on earth can prevent our destroying the German armies by land, their U-boats by sea, and their war plants from the air. Our

attacks will be relentless and increasing.

"Emerging from these friendly conferences we look with confidence to the day when all the peoples of the world may live free lives untouched by tyranny and according to their varying desires and their own consciences.

"We came here with hope and determination. We leave here friends in fact, in spirit and in purpose."

A second declaration which was signed by the three statesmen guaranteed the post-war independence, sovereignty and territorial integrity of Iran (see "The War and the Near East"). While decisions that may have been reached regarding the future status of other parts of the world were not made known, it would appear, as an outcome of the conversations in Moscow and in Teheran, that Russia proposed to leave intact her frontier with Turkey but would expect to secure a portion of the territory of Finland; to reunite Lithuania, Estonia, and Latvia to the Soviet Union, which they had joined in 1940; to reoccupy that portion of eastern Poland delimited with Germany in 1939; and to regain from Rumania North Bukovina and Bessarabia, which had for long been within the Czarist Russian Empire and which had been occupied by Soviet troops during 1940-41. There was no indication that Roosevelt and Churchill considered any of these aspirations to exceed the spirit of the Atlantic Charter.

THE REFUGEE PROBLEM

In common with other nations, the United States was vitally concerned in finding a solution of the difficult problem of dealing with the hundreds of thousands of refugees from Nazi tyranny. As of the beginning of 1943, some 40,000 Polish refugees were in the process of being removed from Iran to East and South Africa, India, Palestine and Mexico; 16,000 Greek refugees were being cared for; since 1938 some 195,000 immigrants, the majority of them refugees, had been admitted to the United States; since 1940 about 60,000 refugees had been admitted into the United Kingdom; and over and above admission into Palestine which had already taken place under the terms of the White Paper of 1939 or under special refugee provisions, the Palestine Government had agreed to receive some 34,000 potential Jewish refugees, mainly women and children, from southeastern Europe. Much more remained to be accomplished, and therefore in April, 1943, an Anglo-American Refugee Commission met at Hamilton, Bermuda. The respective co-chairmen were Richard K. Law, Parliamentary undersecretary for foreign affairs, and Congressman Sol Bloom. The conference agreed that the refugee problem should not be considered as being confined to persons of any particular race or faith; wheresoever practicable, intergovernmental collaboration should be sought, and accordingly plans should be considered for the maintenance in neutral countries of Europe of those refugees for whose removal provision may not be made; and possibilities should be explored for the temporary asylum of refugees in countries other than neutral, and their dependencies. Following a recommendation from the Bermuda conference, steps were taken for the issue by several nations of a Declaration intended to reassure neutral states regarding the future of refugees and thereby to encourage them to give temporary asylum to refugees; the United States and Great Britain discussed with particular neutral states the question of affording assistance toward the cost incurred in receiving refugees; and Great Britain renewed efforts to persuade Rumania and Bulgaria to release refugee children (and a few women) for asylum in Palestine. The Intergovernmental Committee on Refugees, which had been functioning in London, was considerably enlarged, a total of 49 governments having been invited to membership, and this body planned to cooperate closely with the United Nations Relief and Rehabilitation Administration.

UNITED NATIONS RELIEF AND REHABILITATION ADMINISTRATION

This organization, the first operating body of the United Nations to put into effect plans for international cooperation on post-war problems, was set up in October, 1943. Headquarters were in Washington, and the director-general was Herbert H. Lehman, former governor of New York State. It was to cooperate with the Intergovernmental Committee on Refugees, responsible for "short term" refugees, and with the Interallied Government Committee, which was concerned mainly with "long term" refugees. Both groups had their headquarters in London. It was anticipated that nearly 30,000,000 displaced persons would have to be dealt with when the continent of Europe is finally liberated, and the organizational problem of dealing with these people was regarded as of the greatest difficulty.

The first session of the council, or policy-making body, of the UNRRA was held in Atlantic City, N. J., in November. Forty-four nations were represented in the council. The areas in which UNRRA will operate was decided, the range of services and supplies fixed, and its relationships with existing intergovernmental and national supply and shipping agencies clarified. It was agreed that the activities of the UNRRA were to be carried on with the consent of the Government or authority exercising administrative control in a given area, that they would be limited to immediate relief and rehabilitation, and would not extend into the longer-range field of economic reconstruction; and they were to be coordinated with other intergovernmental agencies so as not to interfere with the winning of the war and so as to assure fair and equitable distribution to and among the various liberated areas.

The budget for putting this program into operation was estimated to amount to $2,500,000,000, and it was proposed that the contribution of each member government should be determined by its constitutional bodies. The Council recommended that each member government whose home territory has not been occupied by the enemy should make a contribution for participation in the work of the UNRRA approximately equal to 1 per cent of the national income of the country for the year ended June 30, 1943; governments unable to afford the 1 per cent might give in accordance with their ability to pay. Under the 1 per cent clause, the United States would have to provide $1,500,000,000, the United Kingdom $320,000,000 and Canada $90,000,000, the rest coming chiefly from other parts of the British Commonwealth of Nations and South America.

As far as possible, all UNRRA expenses within a liberated area were to be borne by the government of that area; and within a given relief area goods were to be sold to those able to pay for them, and distributed free to those without funds. Administrative costs were estimated to amount to 2 per cent of the budget, or $50,000,000, of which 40 per cent ($20,000,000) was to be found by the United States, 15 per cent ($7,500,000) each by Russia and Great Britain (the British Commonwealth as a whole 24.8 per cent), and five per cent ($2,500,000) by China. It was decided that Axis Powers would have to pay for any relief they might get and must also contribute to the aid of liberated areas.

MARTINIQUE

The difficulties of the United States Government in dealing with Admiral Georges Robert, Vichy's High Commissioner at Martinique and Guadeloupe, increased early in 1943 and resulted in rupture of diplomatic relations in April. Vice Admiral Hoover was sent to Martinique in July to discuss the terms of a suggested transfer of authority in the French Antilles to other French control. The French Committee of National Liberation took part in the negotiations, despatching a special envoy, Henri-Etienne Hoppenot from Algiers. The discussions were brought to a fruitful conclusion, and on July 13 the State Department announced that Robert had agreed to hand over his authority to Hoppenot. As a result, an aircraft carrier, three other warships, and 140,000 tons of merchant shipping were made available without useless bloodshed for service on behalf of the United Nations.

ANGLO-AMERICAN CARIBBEAN COMMISSION

This experiment in new techniques of cooperation in the solution of colonial problems, which was brought into being in 1942, made marked progress during the year. Among its first accomplishments was the creation of a schooner pool, whereby, with a shortage of shipping caused by the U-boat campaign, sailing vessels plying island waters were enabled, because of centralized control, to carry capacity loads to territories in greatest need. A "land-water highway" was instituted through the cooperation of many different war agencies of both nationalities from the ports of Florida to the most distant of the island chain without passing through submarine-infested waters. The Commission also helped to dispose of the sugar crops from the islands and to procure equipment and materials through lend-lease and other channels for the use of the islanders; it cooperated in programs for increasing food production on the islands, which were no longer able to import; and it was instrumental in securing labor from the Bahamas and Jamaica to work on farms along the Atlantic seaboard of the United States.

The Caribbean Research Council was created under the auspices of the Commission to coordinate research relating to diet, agriculture, forestry and the fisheries; and this, the first all-Caribbean colonial body of its kind, was joined by representatives of the Netherlands colony of Surinam. While set up primarily as a wartime agency, the Commission was expected to become a long-term project with which the independent republics and the colonies and possessions of all nations would eventually cooperate.

The West Indian Conference, a standing advisory body to the Commission, was set up in January, 1944. Its planned function was to provide a channel for consultation with local representatives on social and economic improvements, and to this end the Conference was to have as members two delegates from each United States territory and each British colony or group of colonies in the Caribbean area; other countries may also be invited to participate in the deliberations of the Conference. While the functions of the Council were to be purely advisory, its establishment was a pioneer step which foreshadowed a time when such a body might have authority delegated to it. Creation of the Council set a pattern which might be adopted for like bodies, international in composition and scope, in other areas of the world.

PROPOSED UNITED NATIONS BANK

The United States Treasury made public on Oct. 8 tentative plans for a United Nations bank for reconstruction and development after conclusion of hostilities. It would encourage private financial agencies to provide long-term capital for the sound development of the productive resources of member countries and when necessary cooperate with and supplement private capital for such purposes. The bank's loans would be intended for the provision of such things as the rebuilding of power plants, factories, water systems, and other capital structures. The proposed capital of the bank was set at $10,000,000,000, member countries paying 20 per cent of their capital participation initially in gold and currency; when the bank needed extra funds it might call on members for additional payments of their capital quotas, but not more than 20 per cent of them in any one year. The bank would be governed by a board of directors, one for each member country. These proposals of the Treasury were placed before the governments of all the United Nations for their consideration.

DIPLOMATIC BACKGROUND OF THE WAR

The State Department published on Oct. 6, 1943, six diplomatic documents covering the period from June 17 to Dec. 20, 1940. They included instructions from the Secretary of State to his representatives in France, a conversation held by Cordell Hull with Gaston Henry-Haye, Ambassador of the Vichy Government to the United States, and the President's instructions to Admiral William D. Leahy when he assumed his ambassadorship to Vichy. Mr. Hull, in the course of his conversation, gave warning that his Government "does not propose to trust Hitler for one split second to fall in with any Government on a course of appeasement," and President Roosevelt wrote that use of the French fleet against the British would constitute a "flagrant and deliberate breach of faith" to the United States Government. The documents made clear beyond question that, though a nonbelligerent, the United States Government was ranged on the side of Great Britain and against the Axis more than a year before the Japanese struck at Pearl Harbor.

On Oct. 9 the United States Government issued a volume of 853 pages which contained the matter of the White Paper: "Peace and War: United States Foreign Policy, 1931-41," published in January 1943 (as reported in THE AMERICAN YEAR BOOK, 1942), the correspondence with the Vichy Government referred to above and also, for the first time, copies of diplomatic notes, public speeches and statements by the President, the Secretary of State and other officials at home, communications and reports from officials abroad, and records of diplomatic conversations both in Washington and in many other capitals.

As early as November, 1933, Secretary Hull expressed to German Ambassador Hans Luther the view that a general war during the next two to ten years seemed more probable than peace, and the following year he reminded the Japanese Ambassador, Hiroshi Saito, that Japan and Germany were the two countries considered chiefly responsible for the increase in armaments. So the story ran down through the years. On April 10, 1941, Secretary Hull wrote to the American missions in Portugal, Spain, Finland, and Sweden that it was "the absolute determination of his country and of his Government to see this through to a successful conclusion. . . . We are absolutely convinced that the forces of aggression will be checked and defeated." As is demonstrated by the evidence presented in this book, for years before the blow at Pearl Harbor Mr. Hull had advocated the acquisition of stockpiles of strategic materials and urged increased armaments at that vital base. National failure to give adequate heed to these and like warnings made the task of the country the more difficult after the enemy had struck.

THE WAR IN EUROPE

By Wheeler B. Preston
Author and Publicist

DEFENSIVE TO OFFENSIVE

During 1942 the United Nations had been through the type of experience that tries men's souls. Great Powers, proud in their strength and resources, had been humbled by the theft of their territories and the treatment of their nationals, and smaller ones had been outraged and oppressed, but, though necessarily on the defensive, with redoubled energy they girded themselves for new campaigns of their own making. East and west, in all the Seven Seas, they not only brought the aggressors to a halt but made possible in 1943 the "end of the beginning" (Churchill's phrase) of the great task. Succeeding pages show how successful they proved to be in every aspect of armed assault and in every measure to prepare for greater attacks to come. Everywhere the United Nations were on the offensive throughout the year, driving back the foe from the outer marches of the regions seized, and at the same time taking counsel together to prepare for a happier world for all mankind in the days ahead.

THE SICILIAN CAMPAIGN

Before the fighting in Tunisia had ceased (see "The North African Campaign"), Allied air forces were already assaulting enemy air bases in Sicily, preparing for the attack on what Winston Churchill described as the "soft underbelly of the Axis." On May 9, 1943, more than 400 American planes smashed at Palermo, the important Sicilian port, and others raided Pantelleria, a small garrisoned island in the Sicilian Straits. Two weeks later an uninterrupted daily assault on Pantelleria from the air was commenced, and the island was blockaded by sea, with the result that on June 11 the garrison surrendered. The next day Lampedusa, another Italian Mediterranean outpost, also surrendered, and on June 13, Linosa, 25 miles to the northeast.

The air attacks on Sicily and the Italian mainland were thereafter intensified, and culminated on July 10, when air-borne troops in gliders and parachute troops in transport planes landed in Sicily, quickly followed by landings from the sea, more than 2,000 vessels, warships and transports, taking part in the operations. Gen. Eisenhower directed the landings from Malta which had withstood for three years the most intensified air assault in history. The troops comprised Americans and British, with a division of Canadians and a small French force, the whole totalling 13 divisions. Arrayed against them were three and a half divisions of Germans and 12 divisions of Italians. The latter showed no more inclination to defend their home soil than they had displayed to protect the Italian Empire in Africa, and thus the bulk of heavy fighting was against the Nazis, who fought stubbornly and well in the sternest German tradition.

Landing on a front of 100 miles in southeastern Sicily, the left (western) flank of the Allied line was taken up by the Americans and the right by the British, with the Canadians between them. There was little opposition on the beaches, and the troops pushed quickly ahead; within three days the front extended from Licata, on the west, to Syracuse, on the east. The Americans went on to take Comiso and Ponte Olivo on the 14th, and on the 17th they reached Agrigento, 25 miles from the landing beaches. Gen. Sir Harold L. R. G. Alexander, appointed military governor of Sicily, proclaimed dissolution of the Fascist party there and the annulment of all discriminatory laws.

The British Eighth Army, still under the command of Gen. Sir Bernard Montgomery, its fighting leader on the long road from Egypt to Tunisia, had taken the harbor of Augusta on July 15 and advanced toward Catania. That seaport was defended by the Germans more stubbornly than any other point on the island. During the weeks that Montgomery's forces battled before the city the Americans forged rapidly ahead, reaching Enna in the center of the island on July 21 and splitting the Axis forces into two parts when they reached the north coast two days later. Palermo fell into American hands without a fight on July 23, and on the 25th, as the western end of Sicily was being cleared, news came of the resignation of Mussolini.

By this time other American troops were heading eastward along the northern coast, forming the left flank of the Allied line still held up before Catania and Mount Etna. On Aug. 3 United States forces assaulted Troina, last German stronghold on the inner Etna line, and on the 5th, Montgomery's men captured Catania. As the British advanced slowly along the coastal (eastern) road, the Americans went ahead to the north, and by Aug. 12 the Germans began to evacuate Messina, escaping to the Italian mainland under a hail of aerial bombs. Randazzo fell to the Americans on Aug. 13, and by taking Fiumefreddo and Piedimonte two days later, the British cut off the escape road for the enemy from Randazzo to the sea. Messina came within artillery range on Aug. 16, but virtually all of the Germans had by then made their escape, and with American entry into the city on Aug. 17, 38 days after the initial landing, the Sicilian campaign came to an end.

As was the case in North Africa, Britain supplied three-quarters of the troops engaged and suffered the heaviest casualties. The British Empire lost 14,223 men killed, wounded, and missing (2,388 were Canadians) and the United States, 7,445. Gen. Alexander, Allied ground Commander in the Mediterranean theater, estimated Axis casualties at 32,000 killed or wounded (of whom 24,000 were Germans) and 135,000 (all Italians save 7,000) captured, a total of 167,000 men. At the beginning of the campaign there were roughly 300,000 Axis troops on the island, and thus nearly half of them had escaped to fight once more.

THE DOOM OF FASCISM

Before the Sicilian campaign had drawn to its close the Allies were already "softening up" the people of the Italian mainland by constant air bombing and shelling from the sea. As 1942 closed the immense Italian Empire in Africa had been lost, and the situation in Europe was such that all 18-year-old youths had been called into the army and the women mobilized for industry. Gen. Vittorio Ambrosio succeeded Gen. Ugo Cavallero as Chief of the General Staff of the Italian Armed Forces, and in a speech on Feb. 1 Benito Mussolini promised that he and his Fascisti would "never give up as long as we are able to grasp a weapon." Count Ciano was dropped from the Cabinet when it was reorganized on Feb. 5, the Duce himself taking over the portfolio of Foreign Affairs, but by this time brave speeches and the reshuffling of posts were unable to check the steady disintegration of the state.

On March 2 it was announced that the Italian army in Russia had been withdrawn for a rest (it never returned to the Eastern front), and soon the country was being subjected to air attack by the RAF flying across Europe and by American aircraft from North Africa. The great naval base at Spezia was bombed in April and again in June, and the important industrial centers in northern Italy were repeatedly attacked.

On June 11, at a time when the Italian islands midway between North Africa and Sicily were surrendering, President Roosevelt appealed by radio to the Italian people to depose Mussolini and make peace, but the Fascists were still holding the reins of government too firmly for this to happen. A month later, when the long-anticipated invasion of Sicily began, the disheartened Italian troops put up only the slightest resistance, little encouraged by the Duce's assurance that he "was with them in spirit." Another psychological blow was struck by the Allies on July 19, American fliers bombing railroad yards and airfields in the environs of Rome though avoiding religious and cultural monuments. Axis condemnation of this alleged attack upon the center of Catholicism did little to impress the unhappy Italians. At the time of the raid Mussolini was meeting Hitler at Feltre, in northern Italy. He had intended to state plainly that Italy was no longer fit to continue the war but, instead of allowing him to speak, Hitler stormed for two hours uninterruptedly. By the end of the tirade, Mussolini's courage had evaporated and he said nothing.

Shortly, in the words of Marshal Pietro Badoglio, "Fascism broke apart like a rotten apple." At a meeting of the Fascist Grand Council on the night of July 24 Mussolini was violently attacked by the members, who voted, 19 to 5, that he resign power into the hands of the King. The next morning Victor Emmanuel accepted the resignation and entrusted the government to Badoglio. Mussolini was held under arrest, first on the island of Ponza and then in Sardinia and at Gran Sasso, in Aruzzi, near Rome. Rescued from the last place by Nazis, in due course he set up a "Republican Fascist" government at Bologna, but its part in the subsequent campaign was quite negligible. Badoglio, named Prime Minister, promised to continue the war against the Allies, only to be threatened with "the maximum avalanche of fire and steel" (Churchill's words) unless he surrendered unconditionally. For several weeks negotiations for surrender went on secretly. They commenced with conversations in Madrid between Italian and British spokesmen, continued with a secret visit to Rome by two American officers, and culminated with discussions in Sicily. The result was that Italy surrendered without conditions of any sort on Sept. 3, 1943.

THE CAMPAIGN IN ITALY

By pre-arrangement, news of the surrender was to be withheld until the moment considered by the Allies to be most favorable, and therefore invasion of the Italian mainland began on Sept. 3. Once more the British Eighth Army was the spearhead of the Allied attack, Montgomery's troops crossing the Messina Straits in the early hours and quickly capturing Reggio Calabria and Scilla. On Sept. 7 the British occupied Palmi and Delianova, and the following day, simultaneously with announcement of the capitulation of the Italian Government, two British divisions and one American division of Gen. Clark's Fifth Army (of whom one-half were British troops) effected a landing on the beaches of Salerno. While Nazi forces occupied Rome the British seized the great naval base of Taranto, and most of the Italian fleet sailed into Malta to surrender. The forces at Salerno encountered the stiffest German resistance for nearly a week, and meanwhile, on Sept. 12-13, the Eighth Army captured the ports of Brindisi and Crotone. Brindisi became the seat of Badoglio's Government and the residence of the King, the British and Italian flags flying side by side on the official buildings.

The British occupied some of the Italian-owned Dodecanese islands, off the coast of Turkey, on Sept. 15, but they were soon lost again to the Germans. In October the Nazis seized the island of Kos, and the following month both Leros and Samos were taken by them from the British. The Americans garrisoned islands in the Gulf of Naples on Sept. 17, but at the same time the Germans took over Spalato (Split), the Dalmatian port hitherto held by the Italians, and also the Greek island of Corfu, at the entrance to the Adriatic. By Sept. 19 the Italians had driven the Germans from Sardinia, and French forces landed on Corsica, from which they expelled the enemy after hard fighting.

On the Italian mainland, the Allied forces by Sept. 17 extended in a continuous line across the country from coast to coast, a distance of 225 miles, and as the left flank toiled slowly toward Naples the Eighth Army pushed on to seize the strategically important airfields at Foggia on Sept. 28. From this point most of the Balkans and much of Germany came within range of the great Allied bombing craft.

The Fifth Army entered Naples on Oct. 1, and with one-fifth of Italy now secured, Allied troops pushed northward along the entire line from that city to the Adriatic. With onset of the winter rains, however, the Allies soon ran into immense transportation difficulties, and progress was slowed. Nevertheless, the Volturno River was crossed on Oct. 9 on a front of nearly 20 miles from Capua to the sea, but bad weather continued to hold up ground action elsewhere.

The action of the Government of King Victor Emmanuel on Oct. 13 in declaring war against Italy's former Axis partner was significant of the change in the prospects of the warring Powers. In a message to Gen. Eisenhower, Marshal Badoglio declared that "by this act all ties with the dreadful past are broken and my Government will be proud to be able to march with you on to the inevitable victory"; and in a proclamation to the Italian people, after referring to "German arrogance and ferocity," he promised that, after conclusion of hostilities, they would be able to choose a democratic government. President Roosevelt, Prime Minister Churchill, and Marshal Stalin issued a joint statement (the first put out by them together) acknowledging the co-belligerency of Italy, noting "the Italian Government's pledge to submit to the will of the Italian people after the Germans have been driven from Italy," and pointing out that the terms of surrender recently signed will "retain their full force and can only be adjusted by agreement between the Allied governments in the light of the assistance which the Italian Government may be able to afford to the United Nations' cause." The declaration of war necessarily made Benito Mussolini and his "Republican Fascist Government" outlaws and traitors to the Italian nation.

With progress of Allied arms, the organization known as the Allied Military Government commenced to function, first in Sicily and later, in Italy. It was the policy of the AMG to supervise civil administration by inhabitants of the areas occupied rather than for its officers to rule directly, Fascist officials being replaced as soon as was practicable by others imbued with democratic principles. An Allied Control Commission for Italy was also created, its responsibilities being more closely related to Badoglio's Government, and associated with the Commission was an Advisory Council (see "The United States in Wartime").

The Allied forces in Italy were virtually halted during November and December because of bad weather, numerous land mines in their path, and the stubborn resistance of the Germans. This temporary stalemate proved a severe disappointment to those who had been led to anticipate that Rome would be occupied by Christmas. Canadian and Indian troops were fighting in the ranks of the Eighth Army, and by December both French and Italian forces were serving alongside the Allies. As the year closed the line ran from Ortona, on the Adriatic, held by the Eighth Army, southward to Castel San Vicenzo, where the French Moroccans were fighting, and thence to Mount Sammucro, on the American front, and finally to Pontefiume, on the Tyrrhenian Sea, occupied by British forces of the Fifth Army.

Allied casualties during the Italian

campaign proved heavier than they had been on Sicily. Total United States losses to Nov. 25 were 10,649 and total British 16,074 to Nov. 23. In the categories of killed, wounded, and missing, the American figures were 1,603, 6,361, and 2,685, respectively, and the British 3,212, 9,709, and 3,153. Germans taken prisoner to that period numbered some 6,000.

With a view to preparing for an invasion of the western coast of Europe in 1944, by the end of the year Gen. Eisenhower and other officers were transferred to Great Britain. Supreme command in the Mediterranean area went to Gen. Sir Henry Maitland Wilson, with Lieut. Gen. Jacob L. Devers as deputy supreme commander and chief of all American forces; all air forces were entrusted to Lieut. Gen. Ira C. Eaker, and the naval forces to Admiral Sir John Cunningham, while Gen. Sir Harold L. R. G. Alexander became Allied ground commander in Italy, and the Middle East command was allotted to Gen. Sir Bernard Paget. Montgomery, who had received high command on the western front, relinquished direction of the Eighth Army, his successor being Lieut. Gen. Sir Oliver Leese, whose Thirtieth Corps had been in the vanguard throughout the several campaigns.

THE FIGHTING FRENCH

In the course of the military operations in Tunisia the French leaders in North Africa set up an Imperial Council which, with Gen. Henri-Honoré Giraud at its head, had become in due course the French Committee of National Liberation (see "The North African Campaign"). Both before and after Giraud visited Washington in July there was continued friction within the Committee's membership, though there was temporarily a peaceful interlude when Giraud was made commander-in-chief of all French forces and Gen. Charles de Gaulle, whose headquarters had been in London since 1940, became permanent chairman of the Committee. A Consultative Assembly was set up, and the administration, which de Gaulle habitually referred to as the "Government," was purged of all who had records as Vichyites or were suspected of Axis sympathies.

On Aug. 26 the United States and British Governments announced that they would accord recognition to the Committee as administrative authority for French overseas territories during the war period, though not as a government of France nor of the French Empire. Soviet Russia recognized the Committee as the representative of the "State interests" of the French Republic, and at later periods recognition was given by the governments of Belgium, Brazil, Spain, Greece, Norway, Poland, the Netherlands, and Czecho-Slovakia. The French Committee was given representation on the Allied Control Commission for Italy, in which country its troops were fighting alongside the Anglo-American forces, but although its expressed intention was to fight in any area for the liberation of Europe the political situation was far from satisfactory. Since de Gaulle was not accepted by the Allies as the head of a state the position to be held by the French Committee after armies had landed in France was one of particular difficulty, for to both the United States and Great Britain the question as to who should control France after the war was of fundamental importance.

BULGARIA

Although nominally an active Axis ally, Bulgaria was seething during 1943 with unrest because of the close tie with Germany. In April the pro-German president of the foreign affairs commission of the Sobranje was assassinated, and late in August, on returning from a visit to Hitler, King Boris was fatally stricken, allegedly wounded by a patriot who suspected that the country was to be turned over wholly to the Nazis. Following the King's death on Aug. 28 his six-year-old son succeeded to the throne as Simeon II, and the regency then created had immediately to cope with widespread rioting.

THE NETHERLANDS

The Dutch Gen. Hendrik Alexander Seyffardt, one-time Netherlands Chief of Staff, was assassinated early in February when attempting to raise a Netherlands volunteer force to fight for Germany in Russia; and three members of Anton Mussert's puppet Netherlands Cabinet were also slain by outraged Dutchmen.

POLAND

In April, on the grounds that Russians had murdered Polish officers *en masse* at Smolensk, the Polish government-in-exile appealed to the International Red Cross to make an investigation, with the result that the Soviet Government considered it had been insulted and therefore severed diplomatic relations. The Polish cause suffered a grievous loss when General Sikorski, Premier of the government-in-exile, died at Gibraltar on July 5 as the result of a plane crash on his return from a six-week visit to the Middle East. When the Russian armies reached eastern Poland at the close of the year there were bitter protests by the Poles as the Soviet Union appeared to be about to reoccupy the territory gained with German connivance in 1939. Should the Poles interfere with the Russian offensive they would be helping Hitler, but at stake was the much greater question of the future of all Europe. If Russia was to be permitted to dominate eastern Europe, the plan for a general security system would forthwith go into the discard, and Great Britain might be expected to seek a confederation of the western European nations. Thus, before the last shot was fired, the dreams of an equitable post-war settlement in Europe would have been shattered.

DENMARK

At elections held in Denmark in March, the first since the occupation of the country, some 95 per cent of the voters registered their opposition to Nazi Germany. Matters reached a crisis in August, when King Christian X and his government refused to accede to Nazi demands which would have placed the country directly under the heel of the Germans. When the Nazis imposed martial law there was widespread rioting, and on the Germans attempting to seize the Danish Navy, numbers of the vessels were sailed into Swedish waters and the remainder were scuttled by their crews. Mass arrests of Danish leaders and restraints placed upon the royal family ended the carefully nurtured fiction that Denmark was a model of what all states would become in Hitler's European New Order.

YUGOSLAVIA

With the downfall of Mussolini the guerrillas, who had defied the Axis in Yugoslavia since the overrunning of the country in 1941, began to attack the invaders under the leadership of Gen. Draja Mikhailovitch, War Minister in the Cabinet of King Peter's government-in-exile. German troops were rushed into the country to replace the Italian garrisons, and in September heavy fighting commenced against the Yugoslavs, then in occupation of the northern Adriatic area. By this time, unfortunately, the Yugoslavs were split into two factions, in addition to Mikhailovitch's followers there being a Partisans' Army of Liberation, led by Marshal Josip Broz (Tito), whose affiliations were with the Soviet Union. On Dec. 8 the British Government announced that it was giving greater material support to the latter, for the reason that its resistance to the Germans was very much greater, and the following day Secretary of State Hull indicated that it was the American "intention to assist in every possible way the resistance forces from the point of view of their military effectiveness, without, during the fighting, entering into discussions of political differences."

NEUTRAL EUROPE

The change in the situation in Europe in 1943, the obvious certainty of an Allied victory, led the few neutral countries to risk Hitler's displeasure by making overtures towards his enemies. On Aug. 5 the Swedish Government announced that it had "found that the transit traffic constituted a burden on the Swedish neutrality policy" and gave notice to Germany that the movement of troops and materials through that country to Norway and Finland must stop. When the Germans adopted their customary oppressive tactics against Denmark in August-October the Swedes gladly gave haven to Jewish and other refugees; they lodged a most urgent request to Germany on Dec. 1 "in the interest of future Swedish-German relations" to cancel the arrest and deportation of 1,200 Norwegian students and professors seized at Oslo; and they permitted the open drilling of thousands of Norwegian armed "police" on their soil.

In October the Portuguese Government risked Nazi retaliation by agreeing to give the British the use of the Azores as a naval and air base, and the United States also secured access to these invaluable facilities and to others in the Cape Verde Islands off the west coast of Africa. Spain, too, adopted a more conciliatory attitude, despite insulting demonstrations by Falangists in Anglo-American consulates. Franco withdrew from the Russian front the "Blue Division" sent to serve alongside the Germans, and in a public speech early in 1944 he went so far as to give warm praise to the Yugoslav guerrillas who were fighting the Germans!

GREAT BRITAIN

During the fourth year of her war Britain was putting into the struggle every resource at her command—manpower (in the armed forces, married or not, up to 50, or sent to dig coal), womanpower (conscripted for industry or for the armed forces up to 45), wealth (56 per cent of expenditures met from current revenue), food rationing (less than half the pre-war quantity of food imported) and clothes rationing (a bare minimum allowed). There was a shortage of nearly everything, in fact, except courage and the willingness to continue the sacrifices. Before lend-lease commenced Britain spent $6,000,000,000 in cash purchases in the United States. Britain's reverse lend-lease aid to the United States ("Mutual Aid") consisted of goods (including raw materials) supplied at every base and battlefront in the world, and Russia and other Allies were also extensively supplied by Britain under Mutual Aid; the country's cash expenditure under Mutual Aid exceeded $1,000,000,000 for the United States and half as much again to Russia.

With equality of sacrifice at home (war profits taxed 100 per cent and wages completely controlled) and at the front (battle casualties at both exceeded 700,000), there was a national unity which found no equal wherever men were free to express their thoughts. For all practical purposes there was but one political party, and that wholeheartedly supported the Government's efforts. Great Britain's interest in the defeat of Japan was equal to that in the overthrow of Nazism, for no western nation had greater stakes in the future of the Orient. Speaking in London at the end of June, the Prime Minister pledged that, after Hitler's defeat, "every man, every ship and every airplane in the King's service that can be moved to the Pacific will be sent and there maintained in action . . . for as many years as are needed to make the Japanese, in their turn, submit or bite the dust." With respect to post-war colonial policy, Mr. Churchill declared (March, 1943) that "he had not become His Majesty's First Minister in order to preside over the dissolution of the British Empire." However, the Government made clear that, while responsibility for the British colonies would remain primarily Britain's, the country would welcome, through commissions, the assistance not only of states with colonial territories in the same region, but of other states that, although without actual colonial holdings, had a major strategic or economic interest.

Towards the end of the year preparations moved apace for an offensive from British shores in 1944 against Germany's western flank. These plans entailed a considerable reshuffling of posts among the highest leaders of the Allied armed forces. Gen. Eisenhower was brought from Italy to Britain to assume the position of Allied European Supreme Commander, and he named as his deputy and second in command Air Chief Marshal Sir Arthur Tedder, who thus became the first member of an air arm to be placed above the other branches of the three services. Under these two, Air Marshal Sir Trafford Leigh-Mallory was named commander of the air forces (with Lieut. Gen. Carl A. Spaatz heading the United States strategic bombing forces, Major Gen. James H. Doolittle the United States Eighth Air Force, and Air Chief Marshal Sir Arthur T. Harris the RAF bomber command); Gen. Montgomery was given command of the British ground forces; and the commander of all sea forces was Admiral Sir Bertram Home Ramsay. The last-named organized the evacuation from Dunkerque in 1940 and the Allied landings in North Africa in 1942. Sir Andrew Browne Cunningham, who had been Allied naval commander in the Mediterranean, was appointed First Sea Lord, and the chief of the United States naval forces in the European theater was Admiral Harold R. Stark.

For a great part of the year Mr. Churchill was absent from the country, conferring with President Roosevelt in the United States on several occasions and with him participating in momentous conferences in Casablanca, Quebec, Cairo, and Teheran (see "The United States in Wartime"). On Sept. 6, 1943, Harvard University conferred an honorary degree upon the Prime Minister. Speaking at Cambridge on that occasion, Churchill put in glowing words the ideal of closer accord between the United States and the British Commonwealth of Nations: "Common conceptions of what is right and decent, a marked desire for fair play, especially to the weak and poor, a stern sentiment of impartial justice and, above all, the love of personal freedom, these are common conceptions on both sides of the ocean among the English-speaking peoples. Tyranny is our foe whatever trappings or disguise it wears, whatever language it speaks. In all this we march together."

AIR OPERATIONS IN WESTERN EUROPE

In spite of their former boasting, in 1943 the Germans proved powerless to prevent enormous damage being inflicted by air attack upon their major industrial plants and cities. By means of a new tactical development the RAF's "saturation" night bombings became more deadly than ever. The main raiding forces were preceded by "pathfinder" planes equipped with highly secret devices which lighted the targets by means of flares, so that the clouds, formerly a handicap, were now converted into an asset, and this was an advantage great enough for Hitler to say (1944 New Year's address) that "in the sphere of technical inventions the scales in 1943 were possibly tilted in favor of our enemies." The United States Eighth Air Force continued its practice of daylight bombing, but late in the year largely abandoned its "precision" technique, which requires the clear weather so rare in northern Europe, and adopted "area" bombing under cover of the clouds, presumably employing detection instruments similar to those in use by the RAF. In January, 1944, the RAF and United States Army Air Forces jointly announced development of a jet-propelled airplane, dispensing with propellers of the customary type, which had been designed by Group Capt. Frank Whittle of the RAF; full information concerning it was disclosed to the Americans in

July, 1941, five months before the United States entered the war, and training craft of its type were subsequently manufactured in American plants.

During the year intensive Allied bombing wrought the greatest damage to Hamburg, Bremen, and 22 other large German cities, while 20 more received lesser damage, and the entire industrial area of the Ruhr was destroyed. On Dec. 18 the RAF commenced a series of heavy attacks upon Berlin, 600 miles from Britain, and indications were that they would continue throughout the long winter nights. During 1943 the RAF dropped a total of 155,000 tons on Axis territory, of which 135,000 tons fell on Germany, and the United States Eighth Air Force dropped 55,000 tons on Axis territory. Germany had dropped only 75,000 tons on Britain throughout the entire war, and thus the Allies belied Hermann Goering's boast that the Luftwaffe would repay a hundred-fold for every bomb dropped upon the Reich.

These heavy attacks compelled the Germans to reinforce their first-line fighter strength at home by at least 1,000 aircraft, the total number of enemy fighters opposing the Allies on the western front in 1943 being more than double the number on the Russian and Mediterranean fronts combined. Casualties were necessarily heavy, the American forces lost 976 bombers during the year and 150 fighters, and the RAF 3,048 planes of all types over Britain and western Europe. The loss of personnel amounted to some 10,000 men in the case of the Americans, and three times that number by the British.

GERMANY

In so far as reports from the German Reich were reliable, it appeared in 1943 that there was better justification than mere wishful thinking for believing that conditions were progressively worsening. In February all activities not deemed essential to the war effort or for the maintenance of public health and safety were ordered terminated, while the heavy losses in manpower on the Russian front made it necessary to send youths of 17 into the fighting line; as the year closed 16-year-old boys were ordered to register for the armed forces.

German oppression of subject peoples reached a degree of infamy unparalleled in history. From month to month, from one country after another, came reports, many of them German official announcements, of men and women shot for resisting the occupying troops. Hundreds of thousands of people were conscripted for forced labor in Germany, and terrible stories came from Poland of the almost incredible slaughter of hapless Jews. Europe was in a ferment from Scandinavia to the Balkans, and nowhere was there the slightest indication that the Nazi "New Order" would ever be accepted.

Leaders appealed to the brooding patriotism of the people in an apparent effort to develop what might be called a "strength through sorrow" campaign. Hitler, who had so frequently promised a certain, quick victory, made, in his year-end address, the abject remark that "if millions of people no longer possess anything to lose, they can only gain something" by continuing the struggle. He added: "The day will come when one of the contending parties in this struggle will collapse. That it will not be Germany we know." It was doubtful, however, whether the people in truth knew anything of the kind.

NAVAL OPERATIONS IN EUROPE

By the beginning of 1943 British sea power, despite the loss of the equivalent of a great fleet, was greater than when the war began in 1939. After Italy's surrender it was revealed, that, for some months during 1941, the fleet in the Mediterranean had been so depleted that Britain had only three cruisers available to deal with an Italian navy comprising at the time six battleships and 19 cruisers, besides many smaller vessels. Though the United States bore the brunt of the naval war against Japan, a number of American vessels were serving in the Mediterranean during 1943 under British supreme naval command. During the year Britain's great naval task was to guard the trans-Atlantic convoy routes, a responsibility shared with Canada. It became possible to provide an "air umbrella" all the way, small aircraft operating from carriers supplementing the work of the long-distance air patrols from either shore. The German claims of sinking merchant vessels were much more modest than in previous years (though still highly exaggerated), and Hitler was forced to admit in his 1944 New Year Order of the Day to the Army that the U-boat had proved a failure, due to "one single technical invention of our enemies." The Allies kept silent as to this.

The German battleships *Tirpitz* and *Scharnhorst,* which had escaped from Brest to home ports in 1942, were stationed in Norwegian fjords during 1943 and proved a constant menace to Allied merchant shipping *en route to* Russia *via* the Arctic Ocean. Early in September two German battleships and several destroyers attacked a Norwegian meteorological station at Spitzbergen, and on Sept. 22 British Midget submarines torpedoed and crippled the *Tirpitz* as she lay at anchor in the Alten Fjord, Norway. The *Scharnhorst* met her doom on Dec. 26, 1943, as she was attempting to attack a convoy above North Cape, Norway. The day-long action was fought in the Arctic darkness without the use of aircraft, British cruisers and destroyers cooperating with the battleship *Duke of York* to send her to the bottom with most of her crew of some 1,400 men.

THE GERMAN DEBACLE IN RUSSIA

All German hopes for the conquest of Russia vanished completely in 1943, when the Soviet Union drove back the invaders to its very borders. For long, the Nazis could not bring themselves to admit retreats, choosing to refer to them in such terms as a "withdrawal to the enemy's surprise," "shortening of the front," "successful disengagement," "retrocessive manoeuver," or as a "defense" that was either "elastic," "fluid," or "mobile." In fact, during three years on Russian soil, the Germans had suffered the greatest military disaster in history, but that truth was kept from the people as long as possible.

Early in the winter campaign of 1942-43 the Russians had cut off the German field army before Stalingrad, an immense force of some 330,000 men. For several weeks the Nazis were attacked ceaselessly in bitter sub-zero weather, and on Jan. 31, 1943, with all hope of succor gone, Field Marshal General von Paulus, the German commander, surrendered, together with the 18,000 officers and men still surviving. In the Caucasus, too, the Germans had to fall back before the furious Russian onslaught. Mozdok, at the entrance to the Grozny oilfields, was re-entered by Soviet forces on Jan. 3, and soon the Russians were advancing both in the Caucasus and in the lower Don region. A special Moscow communique on Jan. 16 announced a break-through south of Voronezh for a distance of 56 miles, and in the north, three days later, the siege of Leningrad was broken. At the latter place the Russians established a 12-mile corridor between the city and the Germans, and gained part of the south shore of the Gulf of Finland.

Before January closed the Russians had re-entered Armavir and Kropotkin, in the Caucasus, and by cutting the Moscow-Kharkov railway 21 miles north of Kursk early the following month they entered territory that had been in German occupation since 1941. Kursk fell to the Soviet forces on Feb. 8 and Belgorod, 50 miles north-east of Kharkov, a day later; Rostov and Voroshilovgrad were occupied on Feb. 14; and Kharkov, keystone to the Germans' strategic position in south Russia, was lost to the triumphant Russians on

Feb. 16. This last success was of short duration, however, for German forces continued to batter ceaselessly at Kharkov and on March 14 recaptured the city. The Nazis also struck back in the Donets Basin, and retook Belgorod on March 21, but the spring rains had now arrived and military movements came, perforce, to a halt. The German experience had been bitter, for by this time 236,000 of the 580,000 square miles of the territory once occupied had been lost after an appalling sacrifice of human life.

It was not until the first week of July that the Germans opened their long-awaited summer campaign. However, it was not on the scale of former years. In 1941 the Germans had struck on a front of 1,500 miles, and in 1942 on one of 500 miles, whereas now, in an offensive from Orel, through Kursk to Belgorod, the distance was less than 200 miles. This Nazi drive, which began on July 5 with the greatest tank battle in history, found the Russians stronger and more confident than before, and within a week it had died down and soon collapsed. With positions restored as they were at the beginning of July, the Russians crossed the Donets and Mius rivers on July 20, and went on to capture Orel on Aug. 15 and Belgorod the next day. Thus was disproved the myth that a German summer offensive was invariably successful, and the Soviet troops now launched attacks of their own that amazed the entire world.

By the middle of August the Russians were advancing on all fronts. Their major drive centered in the Donets Basin, and on Aug. 23 Russian troops once more rolled into Kharkov, third largest city of the Soviet Union. Before August closed the Germans were retreating at all points, losing vast areas in the Ukraine and, on Aug. 30, surrendering Taganrog, at the head of the Sea of Azov. Both Rostov and Voroshilovgrad provinces were clear of the invader by early September, and the Russians continued to sweep through the Donets Basin, capturing Stalino on Sept. 8 and Mariupol, on the Sea of Azov, two days later. Northward for 450 miles from that southern point the Russian advance continued without pause. On Sept. 14 the Nazis announced evacuation of Bryansk, last base from which a new offensive on Moscow was possible, and admitted that fighting was taking place at Novorossisk, the Black Sea port far to the southward. Ten days later the Russians crossed into White Russia. Poltava, a German stronghold in the Ukraine bypassed in August, was occupied by the Russians on Sept. 23, and within a short time Smolensk was within range of the Soviet artillery. The last-named, which had served as Hitler's headquarters during the drive on Moscow in 1941, was evacuated by the Germans on Sept. 24, as was also Roslavl, to the southeast of this great city.

Since the beginning of their offensive in July, the Russians had recaptured a further 89,000 square miles of their territory, a great part of which had been wantonly laid waste by the enemy. The Germans had lost most of the first-class industrial centers which they had occupied, and there remained in their hands only that area of Russia which had been seized during the early stages of the 1941 campaign.

Although heavy rains slowed the continuing advance, by Oct. 7 the Soviet forces had crossed the Dnieper River and were plunging forward along the 1,500-mile front from Leningrad to the Crimea. Soon the enemy were ejected from the Taman Peninsula, thus clearing the Caucasus region, and by Oct. 18, when the Moscow Conference of Foreign Ministers opened (see "The United States in Wartime"), the Russians were storming Melitopol. Kiev, former capital of the Ukraine, was recaptured on Nov. 6, and simultaneously a landing was effected on the east coast of the Crimea. On Nov. 13 Zhitomir, a vital rail junction was occupied, but the Nazis, in a desperate counter-offensive, forced the

Soviet troops to abandon it six days later. Though the Germans followed up this success in the Chernyakov-Brusilov area and temporarily regained half the territory lost westward of Kiev, the Russians soon were advancing once more. Gomel, at one period Hitler's headquarters, was lost by the Germans on Nov. 27, and during the next few days, while Marshal Stalin was meeting with the Anglo-American leaders in Teheran (see "The United States in Wartime"), Russian drives in all sectors gained momentum.

However, the Germans were able to hold their winter defense line before Kiev through the early part of December. The Russians then renewed their drives in that area, and by the end of the year had virtually restored the position to what it was before the Nazis started their ill-starred counter-offensive. Zhitomir was taken once more on Dec. 31, 1943, and the Russians signalized the New Year by approaching to within 27 miles of what had constituted the Polish border before the Soviet Union, with the acquiescence of Hitler, had occupied eastern Poland in 1939. Between Feb. 1 and the end of the year the Nazis had been pushed back 775 miles from Stalingrad, approximately the distance from New York to Chicago.

No longer did the Germans attempt to conceal the true situation. They admitted that the very deep penetration by the Russians south of the Pripet Marshes had split their front in two, and as the Russians advanced toward the Odessa-Warsaw trunk railroad, the last major German supply line, they were facing a military disaster exceeding in magnitude that suffered at Stalingrad. On Jan. 6, 1944, the Russians announced the capture of Rakitno, 10 miles inside what had been Poland until 1939, and with the expectation that the Soviet Union intended to retain the gains of that year a grave political crisis was threatened. The Anglo-American leaders were reluctant to suggest where the Polish boundary should run. Primarily they were interested in two things: defeat of Germany, to which Russia was making the major military contribution; and second, the establishment of a firm basis for permanent peace. Any solution contributing to these aims would be perfectly acceptable to them, but until it could be found a most thorny problem remained.

THE OUTLOOK

As the year closed, all omens for the future in the war in Europe were highly propitious for the United Nations. The prestige enjoyed by Axis arms had disappeared for good. The Italian Fascist Government had been beaten into unconditional surrender, and a new regime under the King had joined the Allied cause. In every theater of war, on land and sea and in the air, Germany had not only been defeated but her reputation for invincibility definitely shattered. By every method available to them the Axis puppet states had shown their eagerness to get out of the war; and the neutral nations had found it prudent (even in cases where it was not really desired) to reorientate their attitudes closer to the Allies.

Nevertheless, though victory was inevitable, in all probability it was not imminent. Only one-fourth of the territory overrun by Germany had been liberated by the end of 1943, and that only along the outer extremities. Germany had almost three times as many field combat divisions in 1943 as when Poland was invaded three years earlier. It had taken the two best armies of the United States and Great Britain, containing a total of 13 divisions, five weeks to overcome in Sicily the bitter defense of an enemy whose air cover had been removed and whose supply lines were paralyzed by our overwhelming air superiority. The Allies had been held up in Italy for weeks. While the Nazis had been driven from vast areas of Russia, their armies had remained intact and no evidence appeared of a breakdown in morale, either in the field or at home. The

Wehrmacht was still a most formidable machine, and in an objective view of the situation existing at the end of 1943, hopes for an early end of the war in Europe seemed unwarranted.

THE NORTH AFRICAN CAMPAIGN

By Wheeler B. Preston
Author and Publicist

THE BEGINNING

The British Eighth Army, under Gen. Sir Bernard L. Montgomery, struck at the Germans at El Alamein, Egypt, on Oct. 23, 1942, and thus commenced a victorious advance westward across the desert which was to end with the final expulsion of all Axis forces from Africa. At that moment, and in conformity with Montgomery's movements, an Anglo-American force, drawn from both Great Britain and the United States, was en route to North Africa. There it played a great part in the final victory.

AMERICAN SECRET MISSION TO ALGERIA

Prior to the actual landings of the troops, a secret visit was paid to Cherchel, Algeria, by two American representatives, Robert D. Murphy of the State Department and Lieut. Gen. Mark Clark, and three British Commando officers, the party traveling from Gibraltar in a submarine. It became clear that resistance to American landings would be less likely to meet opposition than British, and accordingly it was decided that the former should be effected first.

LANDING OF ALLIED FORCES

In the early hours of Nov. 7, 1942, therefore, American forces, supported by British naval and air units, made landings in the vicinity of Algiers, Oran, Mehdia (Port Lyautey), Fedhala (near Casablanca) and Safi. No landings were made at Bone or Philippeville, much closer to Tunisia, and none in that territory, for the difficulty of obtaining sufficient shipping, and the possibility that the Germans might move into Spanish Morocco, were imperative considerations. As events developed, however, French resistance proved so slight that had the risk of more easterly landings been taken, the resulting campaign might have been shortened by several months.

For the most part, the French made only a token resistance because of their "military honor." The heaviest fighting took place in the neighborhood of Oran and Casablanca, where the French naval forces made several sorties and attacked some of the battleships and cruisers. Resistance continued through Nov. 8-10, and before it ceased French casualties numbered 1,459, of whom 490 were killed and 969 wounded. French Generals Charles Mast and Emile Bethouart gave particular assistance to the American landings, though the orders of the latter to cease resistance resulted in his arrest on the orders of General Nogues, Governor-General of French Morocco.

Gen. Henri Honoré Giraud, who had escaped from imprisonment in Germany, was conveyed to North Africa in a British submarine and there urged his fellow-countrymen to seize this unexpected opportunity for throwing off the Nazi yoke. His example was followed by Admiral François Darlan, at that time chief of the armed forces of Pétain's government in Vichy, who was by chance on a visit to a sick son in Algiers. When, on the morning of Nov. 11, the Germans invaded unoccupied France, Darlan rejected the pseudo-independent Vichy government, assumed authority in North Africa in the name of Marshal Pétain, and promulgated an order to all French commanders in that area to cease hostilities. The order reached Casablanca a few minutes before the American assault on that city was to be launched. The landings had cost the United States 360 men killed, 1,050 wounded and 500 missing, a total of 1,910 men.

TUNISIAN OPERATIONS

All operations in French North Africa, then and subsequently, were under the direction of Gen. Dwight D. Eisenhower as Allied commander-in-chief. Directly under him British officers, Gen. Sir Harold R. L. G. Alexander, Admiral Sir Andrew Browne Cunningham, and Air Chief Marshal Sir Arthur W. Tedder, headed the forces on land, on the sea, and in the air, respectively. Lieut. Gen. Sir Kenneth A. N. Anderson, who commanded the British First Army, was head of all field troops, and he pushed toward Tunisia with all speed after British forces had landed at Bougie on Nov. 10 and at Philippeville and Bone about a week later. By Nov. 17 the First Army had reached Tabaroa, just inside the Tunisian frontier, while the bulk of the American forces moved toward Spanish Morocco to thwart a possible German attack. Supply difficulties soon slowed up Anderson's advance, and before he could reach the ports of Tunis and Bizerte the Germans had landed troops in force. American support was immediately rushed to Anderson, and though it now became possible to cut the road and rail line between Tunis and Bizerte, the winter rains, heaviest for many years, set in and soon both combatants were bogged down.

ALLIED OPERATIONS IN LIBYA AND TRIPOLI

The British Eighth Army, meanwhile, was moving rapidly across Libya and on Jan. 23, 1943, entered the port of Tripoli. By this time operations in Tunisia had been resumed, and as Montgomery's troops approached the Mareth Line, on the Libyan-Tunisian border, field command in Tunisia was taken over from Anderson by Gen. Alexander. The latter directed operations of American, French, and British forces, these last constituting about three-quarters of the troops engaged. The Americans were never more than four divisions strong at the front, and the French Africa Corps, with some native hill tribesmen, were in small strength. The Axis forces opposing them at first did not exceed 200,000 men, of which the finest were three German armored divisions.

On Jan. 18, 1943, the Nazis opened an attack on the French troops in the Pont du Fahs and Ousselita Valley area (which Americans had occupied a month earlier), and Anglo-American forces went to the assistance of the French. The German assault died down, but the junction of the veteran Afrika Korps under Col. Gen. Jurgen von Arnim's command permitted the enemy to launch further offensive strokes against lightly-held portions of the Allied line. On Feb. 14 German armored units, reinforced by artillery and infantry, and supported by dive bombers, struck westward from Faid and broke through the American positions at Sened Station. Overwhelmed by superior numbers, the U. S. forces abandoned Gafsa and Sbeitla and fell back to the Kasserine Pass. By the afternoon of Feb. 21 the Axis forces had advanced a three-pronged armored thrust 21 miles beyond the pass, and by this time the whole position of the British First Army appeared to be outflanked.

This defeat threatened to become a disaster; it was narrowly averted. By forced marches Allied artillery was brought up from as far away as Oran (770 miles were covered in three days), all types of planes, even bombers, were mustered for the defense, and armored and infantry divisions, British and American, were hastened from bivouacs hundreds of miles distant. At this critical juncture, as so frequently happens in warfare, the enemy paused. Instead of attempting to advance toward Tebessa, an American supply base and command headquarters, the Germans halted on Feb. 23 what proved to be their last offensive efforts in the North African campaign. They withdrew from Kasserine but continued to hold all the passes through the mountains to the coastal plain.

PURSUIT OF ROMMEL IN TUNISIA

With cessation of the rains the roads were improved; the railroad was vitalized with American methods and matériel, and a dozen gasoline pipelines were built. The Allies then resumed the attack. The British First Army, on the left extremity of the line, took Sedjenane on March 5, and two days later Montgomery's Eighth Army, holding the right flank, attacked the Nazis entrenched on the Mareth Line. On March 18 the Americans reoccupied Gafsa and El Guettar, and pressed on to capture Sened, Maknassy, and Fondouk. With the collapse of the Mareth Line on March 8 Rommel, already 1,300 miles from El Alamein, continued his retreat northward along the Tunisian coast. He was closely pursued by the dogged Eighth Army, and as the soldiers occupied Gabès and El Hamma the British Navy landed forces at Sfax, 100 miles north of the former place. The U. S. Second Army Corps and Montgomery's Eighth Army met on the Gafsa-Gabès road on April 7, and to the north, the same day, the British First Army again moved forward. This last force reached Chaouach, only 36 miles from Tunis on April 11, and meanwhile the American Second Corps, which had been moved right across the Allied front northward, took a position 18 miles in length athwart the Sedjenane-Mateur road. As they pressed on toward Mateur, Franco-British forces expelled the enemy from Djebel Mansour, poured down on to the coastal plain, and closed in on Pont du Fahs.

AIR OPERATIONS

The air operations of this period provided a classic example of the strategic and tactical use of air power. On April 5 air attacks of consistent intensity were launched on the airdromes of Sicily and Tunisia, resulting in the destruction of over 150 enemy airplanes on the ground and 50 more shot down in the air; Axis ports and shipping were also heavily attacked. In all, during a period of 14 days, 147 transport planes and 31 vessels, large and small, were damaged or destroyed. The suddenness of this complete and violent rupture of Axis communications undoubtedly came as a surprise. It upset the enemy's plans for delaying actions in Tunisia, particularly the defense of the Cap Bon Peninsula, and precipitated the ultimate collapse of the Italo-German forces.

FALL OF TUNIS AND BIZERTE

Despite the fact that the Germans were resisting desperately, from the northernmost American sector to the positions of the British Eighth Army, 125 miles to the south, by the end of April victory was clearly approaching. In the center, the French Nineteenth Corps reached Lake Achtel, on the coastal road 17 miles west of Bizerte, on April 30, and the Americans pressed on down the Sedjenane Valley. In a final great push, on May 7 the British and American forces succeeded in entering Tunis and Bizerte, and thus reached their objectives 181 days after the Allied landings in North Africa. However, although each day the enemy surrendered by thousands, the struggle had not quite ended. On May 8 British troops broke through the German "Siegfried" position across the entrance to the Cap Bon Peninsula, and elsewhere the still-fighting remnants of the enemy forces were herded into an ever-narrowing box. The end came on May 12, 1943, when Col. Gen. von Arnim surrendered with the last of the Axis forces in North Africa, the total of prisoners taken during the campaign having totalled 252,415 German and Italian officers and men.

CASUALTY LISTS

The cost of victory in North Africa had been heavy. French casualties in all categories amounted to 16,000 and the American forces incurred casualties amounting to 18,738, of whom 2,574 were killed, 9,437 wounded, 1,620 missing and 5,107 taken prisoner. The British suffered even more severely in Tunisia, losing 35,000 men killed, wounded, and missing (23,500 of the First Army and 11,500 of the Eighth Army). From Italian entry into the war in June, 1940, British total casualties in North Africa had amounted to 220,000 killed, wounded and missing. Against these figures, the Axis had lost 620,000 men in Africa, comprising 220,000 Germans and 400,000 Italians, and not including 200,000 Italian native troops who suffered casualties in the Ethiopian, Eritrean and Italian Somaliland campaigns. In Tunisia alone, the total Axis losses were 324,000, more than half of them German.

Throughout the Tunisian campaign the armies received vital support from the Allied air forces and the British Navy. The Axis lost 137 ships with a total tonnage of 433,400, 48 vessels being sunk by airplane attacks, 47 by submarines and 42 by surface forces. These sinkings represented 32 per cent of the estimated shipping initially available to the enemy at the outset of the campaign. In contrast, of the vast amount of Allied shipping that entered the Mediterranean from first to last during the campaign, less than 2¼ per cent was lost. The opening of the Mediterranean shortened the turn-around of vessels bound for the Middle East and this, in effect, meant an immediate increase of Allied shipping equivalent to some 240 vessels.

FRENCH ADMINISTRATIVE DEVELOPMENTS

Coincidental with the military operations in North Africa, the French people thereby liberated were organizing with a view to the eventual freeing of their homeland. Admiral Darlan declared himself Chief of State in North Africa on Dec. 1, 1942, and following his assassination on Christmas Eve General Giraud succeeded as head of the Imperial Council which had been created. In January 1943, Giraud persuaded the French authorities at Dakar, French West Africa, to cooperate with him, and to release the warships anchored there, and later in the month he was brought together with General de Gaulle, head of the Fighting French movement in London, through the instrumentality of President Roosevelt and Prime Minister Winston Churchill, then in conference at Casablanca (see "The United States in Wartime").

The Imperial Council was replaced by a "War Committee" in February, and the following month Giraud repudiated all Vichy decrees, removed anti-Jewish restrictions, and restored general elections and municipal assemblies in French North Africa, but it was not until June 3 that Giraud and de Gaulle were able to reconcile their differences and join in a provisional government for the French Empire set up in Algiers and termed the "French Committee of National Liberation." Despite continued friction between the leaders and their individual supporters, the French Committee received much recognition from Allied governments (see "The War in Europe").

THE WAR IN THE ORIENT AND THE PACIFIC

By Eldon Griffin

Author and Publicist

GENERAL

The year 1943 witnessed a mounting initiative in the war against Japan and her satellites in the Pacific arena. Evidences of growing Allied strength pointed to victory. The number and the range of specific engagements were impressive. Increasingly the Allied effort became the United Nations effort. International problems are becoming permanently and dramatically enmeshed with domestic issues in several countries. Military conflict is taking its place as one phase of a broader and more lasting conflict; the war in the Pacific and Asia merges with post-war conflict and readjustment in the Pacific and in Asia.

The question of increased supplies of men and materials for the campaigns in these regions engaged growing interest, especially as differences of opinion developed on the relative merits of an island-hopping approach to Japan and a more direct approach. The Japanese psychological maneuvers in the occupied areas of eastern Asia have compelled Occidental nations to consider forward-looking and long overdue political measures.

The campaigns form an uneven rim about an area in which Japan is consolidating her economic and political power. Outside of Japan proper this area includes Korea, Manchuria, parts of Mongolia and eastern China, the Philippines, large mainland areas in southeastern Asia, and numerous islands in the East Indies and the western Pacific. The campaigns and political developments traced here are arranged as follows: Alaska and northeastern Asia; Australia; New Guinea and the East Indies; the Solomon Islands and Micronesia; India and Burma; Thailand, Malaya, and Indo-China; the Philippines; Free China and Occupied China; and Japan proper. In many instances dates indicate the time of reports rather than the precise time of action.

JAPANESE TURNED BACK IN THE NORTH PACIFIC; ALASKA CLEARED; ASIA ATTACKED

The year brought the ejection of the Japanese from North America. After months of inactivity, Japanese planes from Kiska attacked American vessels in Aleutian waters late in January. In the same month United States forces occupied Amchitka, 70 miles from Kiska. Attu, evacuated by the Japanese in September, 1942, and reoccupied at the end of that year, was shelled by American warships in February, 1943. Improved weather in March permitted frequent American air raids on Attu and Kiska, designed to check the surprisingly successful Japanese work on an airplane runway on the rough terrain of the latter island. In a surface battle near the Russian Komandorski Islands, late in March, a superior Japanese cruiser-destroyer force was compelled to retire. By early May, Attu and Kiska had been raided by air 200 times. On May 11, American ground forces, with naval support, landed on Attu, meeting bitter resistance at Holtz Bay and Massacre Bay; two converging lines boxed in the defenders at Chichagoff Harbor, and by May 21 the island was in American hands.

In June and early July airplanes softened up Kiska. A strong surface force attacked on July 7. Japanese efforts to supply their troops were broken up. A United Nations force of Americans and Canadians landing on the island Aug. 21 encountered a surprise; in spite of careful preparations for a long occupation the Japanese had departed, and their influence in the Aleutians was at an end. The 3,700-foot runway became available for Allied offensive operations.

Far behind the fighting front, work on the Canol pipeline from the Norman Wells in northern Canada proceeded, and a spur highway from Haines connected the coast with the new military Alaska (Alcan) Highway, cutting off 1,000 miles from the land supply route to Fairbanks and reducing transportation costs.

In Australia, New Guinea, the Solomon Islands, and nearby regions, defense turned to vigorous offense. By the middle of the year Prime Minister John Curtin of Australia announced that the country was safe from invasion; the Ninth Australian Division was home from North Africa, and the entire Australian Imperial Force was pointed toward war in the Pacific. As early as February the Coral Sea area was free of enemy surface ships, although the submarine "wolf-packs" increased their activity. Frequent Japanese air raids on Darwin, possibly training ventures for new pilots, lacked military effectiveness.

In March it was announced that United States Minister Nelson T. Johnson would remain at Canberra, the Presidential nomination of a new envoy having been withdrawn in the face of protests of the American public.

Curtin's Labor government met such criticism that a general election was called for August; with the support of the Council of Trade Unions the Labor Party secured a large majority. Shortly after, in September, the Labor government in New Zealand was returned with a fair majority. War expenditures increased rapidly. Australia presented one of the widespread indications of the influence of the war—and related changes of international and domestic patterns—in modifying traditional ideas and precipitating action; the customary limitation of immigration and the need of permanent industrialization received increasing scrutiny, and in November a commission was appointed to consider alteration of the immigration policy. A Department of Post-war Reconstruction was created. The economic results of lend-lease (a two-way arrangement) formed new bonds between Australia and the United States.

The strenuous and heroic campaigns in Papua and northeast New Guinea and in the Solomon Islands enlarged two related theaters, commanding wide attention. Surprise played an increasing part in offensive operations.

NEW GUINEA TO NEW BRITAIN

The Allies won Buna early in January and Cape Sanananda later in the month, thus clearing Papua of the enemy, of whom 15,000 had held the area when, in September, 1942, the counter attack starting near Port Moresby began to carry them back over the Owen Stanley Range. Bombing of the Japanese strongholds at Lae and Salamaua, roughly 150 miles west of the newly gained positions, continued; in a fierce air-sea battle off the northeast coast of New Guinea a large Japanese convoy was badly damaged and 85 enemy planes were destroyed. Australians attacked Mubo, south of Salamaua. Early in February a new front developed about an Allied air field at Wau, high in the mountains of east-central New Guinea, where Japanese attacking from coastal bases suffered heavy loss of planes. The Sixth Army of the United States was created, under Lieut. Gen. Walter Krueger, to include most of the American troops in Australia and New Guinea.

As the land and air campaign aimed at Lae and the Huon Gulf continued in March, notable naval victories were won by the United Nations. In adverse weather (Mar. 3-4) MacArthur's planes scattered a large Japanese convoy advancing toward Lae and Salamaua. Loss of all 22 ships (90,000 tons), more than 100 planes, and an estimated 15,000 troops on transports was a disaster for the Japanese; the combined American, British, Dutch, and Australian air arms lost four planes. Ten days later a smaller convoy northwest of Wewak was bombed; and Dutch and Australian planes drove off another, headed for the nearby Aroe Islands, between Dutch (or western) New Guinea and Australia. Then United Nations airmen attacked 14 Japanese bases on a long line from Amboina and Timor to New Ireland, especially Madang on New Guinea. In April notable air activity at Oro Bay, over Port Moresby, and at Milne Bay brought destruction to half of the attacking Japanese planes, and another large convoy was dispersed off New Guinea. In May the enemy sought to control the western half of the island.

During the summer lack of reinforcements hampered the enemy at Lae and Salamaua. American forces increased their freedom of action, and ground fighting accelerated near

Mubo. In July, Australians, joining forces with Americans, landed at Nassau Bay and took Mubo. In the first attack on Java in a year United States bombers ranged far to strike the great airbase at Surabaya; and the Japanese continued preparations for anticipated heavy assaults on Indonesia. On another long trip American flyers set fire to the oil port of Balik Papan on Borneo. Suffering but slight loss of planes, others surprised Wewak, destroyed 120 planes, and damaged 50 others; many of these were standing in readiness for an expedition. By Aug. 21 the total of Japanese planes put out of action at Wewak reached 300.

Early in September many American paratroopers occupied the Markham Valley in a dramatic movement of men and supplies, joining with Australian ground troops; United Nations forces, chiefly Australians, landed northeast of Lae to isolate that stronghold from the naval bases at Finschhafen and Madang and the airbase at Wewak. In mid-September the Salamaua airport and Lae, with its two airbases, fell before attacks involving much strenuous ground action; air raids weakened other objectives farther along the coast. In early October United Nations troops landed north of Finschhafen and took that base after heavy fighting—part of a move to control Huon Gulf and facilitate the taking of Rabaul on New Britain, also the 1943 objective of the concurrent Solomons fighting.

Australian troops in the Ramu Valley drove toward Bogadjim, north of Madang. During two months to Oct. 12 Japanese plane losses were 500, and in six actions at Oro Bay this figure was increased by 147. Japanese naval losses (especially in heavy cruisers) in the southwest Pacific were growing impressively; in ten days to Nov. 8, Allied flyers sank three cruisers and bombed 13 others.

In December mopping up operations proceeded on the Huon Peninsula, an area as large as Connecticut, and companion drives on Bougainville and New Britain Islands began to pinch Rabaul. Warships shelled Madang on New Guinea and Gasmata on New Britain—formerly a part of the German colony of New Guinea and then an Australian mandate. Between Gasmata and Cape Gloucester, on the western tip of New Britain, lies Arawe, opposite Finschhafen. As the year drew to a close General MacArthur's troops crossed to Arawe and seized a beachhead from the unprepared Japanese for a notable gain, including a potential runway. Frequent air raids were followed by successful naval action against Cape Gloucester and the capture of important runways; on Dec. 26 the greatest force of ships and men yet collected in the southwest Pacific moved on the Cape, inflicting heavy losses on the Japanese. Kavieng was hit by air, and Madang was bombed on Dec. 31.

The year's achievements provided a setting for General MacArthur's condemnation of "island-hopping" and his advocacy of massive strokes against main objectives. The converging battles in the Solomon Islands, traced in the following paragraphs, formed important links in the general strategy.

DUTCH EAST INDIES

Meanwhile, loss of export trade and economic dislocation appeared in the Netherlands East Indies; an urban influx of laborers, partly from rubber and tobacco plantations, accented unemployment problems. The Japanese attempted to exercise control through neighborhood associations, and announced an autonomy program, apparently for Java alone. Subsequent plans for a September selection of cooperative councils to aid the alien administration seemed to envisage very little self-government, since the majority of members of the central council were to be appointed by the Japanese military commander, and Malay was to be reduced to the status of a language auxiliary to Japanese.

GUADALCANAL TO NEW BRITAIN

At the beginning of the year American forces held part of the now famous Guadalcanal Island in the Solomons. Their rest well earned, General Vandergrift's Marines were being replaced by Army units under General Patch, which pointed their arms toward the northwest. By early February American units had pocketed the last Japanese near Cape Esperanza and controlled Guadalcanal, after disposing of most of the original 15,000 Japanese troops, thwarting a major attempt of 10 destroyers to land supplies, beating off renewed air attacks on Henderson Field from the base at Munda (New Georgia Island), and subjecting that stronghold to daily attacks.

In January a Japanese invasion fleet at Rabaul, midway between Australia and Truk in the Caroline Islands, was repeatedly hammered. Appearance of a new Japanese airbase on Ballale Island, 300 miles above Henderson Field, suggested that the Japanese were scattering their bases.

A large sea and air battle (Jan. 29-Feb. 4) elicited from the Japanese another of their monotonously extravagant claims of American losses. Many Japanese naval and cargo vessels, seeking to evacuate troops from Guadalcanal and to hamper American landings, caused the loss of the heavy cruiser *Chicago,* one destroyer, three torpedo boats, and 22 planes—against their own loss of two destroyers (15 others damaged) and 60 planes. Japan's strenuous efforts to retake the island probably cost a total of 50,000 men, nearly 800 planes, and well over 50 ships. As at Kiska, American troops moving on Russell Island, off Guadalcanal, found it evacuated. Strong enemy air raids continued in this area, the Japanese sustaining the heavier losses.

On June 16 an attempted surprise attack on Guadalcanal by planes from Japanese fields to the northwest was reported. Setting out in thick weather they encountered clear weather over Guadalcanal, where they did minor damage and lost 94 of 120 planes against American losses of six planes. American air raids of April 2-4 on remote Kavieng on New Ireland Island, north of New Britain, sank or damaged 12 Japanese war vessels.

By midsummer a coordinated ground, air, and naval offensive to clear the enemy from the southwest Pacific was in progress, as indicated by foregoing activities and by landings on Rendova and New Georgia Islands in the Central Solomons (with Munda as an early goal), occupation of the Trobriand and Woodlark Islands between New Guinea and the Solomons, and the bombing of Rabaul. Munda was bombed from Rendova. On an approximate 5-to-1 ratio the Japanese lost 123 planes in two days. Attempting to aid Munda, a Japanese naval force engaged American units, July 5-6, in Kula Gulf, between New Georgia and Kolombangara Islands, losing nine warships, several of them before the blazing guns of the cruiser *Helena,* which finally was sunk. New American landings were effected near Bairoku and Zamana. The Japanese fared badly in a second encounter in Kula Gulf, July 12.

To the north, over southern Bougainville Island, 200 American planes raided Buin and Faisi, July 16-17, destroying seven vessels and 49 planes in a major engagement. By early August, after a month of fighting, American troops had encircled the garrison at Munda and taken the airfield; some Japanese remained at Bairoku Harbor and in the hills; near the end of the month Bairoku and nearby islands fell. All of Bougainville (with Kahili and other Japanese airbases) and Rabaul had been brought within the range of attack. Using an increasingly discussed technique, troops bypassed Vila on Kolombangara Island and landed on Vella Lavella Island.

During September and early October the Japanese seaplane base at Rekata Bay (Santa Isabel I.), northwest of Guadalcanal, was abandoned.

Arundel Island was taken by Americans. Bombed by sea and air, Kolombangara was cut off from its supply route; American warships broke up attempts to withdraw Japanese troops, sinking 40 loaded troop barges in one day, and the island came into American possession (Oct. 6-11).

In subsequent activities during October and November, Rabaul was surprised by an air attack (Oct. 12) which destroyed 177 planes and sank or damaged 123 vessels and another (Oct. 23-24) which cost the enemy over 100 planes. At the end of October and the beginning of November, United States forces landed on Choiseul Island in order to divert attention, and a surprise invasion force bypassed southern Bougainville to land well up the west coast of the island at Empress Augusta Bay, only 260 miles from Rabaul. The Treasury Islands were taken.

In this period Japan's sea power at Rabaul sustained its worst blow, with heavy loss of massed tonnage. An American force of aircraft carriers, cruisers, and destroyers pushed toward Rabaul early in November under cover of darkness and then sent carrier-fighters with bombers which struck Japanese naval units and aircraft heavily and effectively. Withdrawing for several days, the American naval force returned (Nov. 11) in bad weather, and the raiders from carriers inflicted heavy damage in spite of a fierce defense. The Japanese vessels retired 900 miles to the major Pacific base at Truk in the Carolines; American naval units followed and, being unable to draw the Japanese into battle, moved away to join in the fighting in the Gilbert Islands, to the southeast.

It was now clear that Rabaul could be destroyed, although not simply by air attacks and the sinking of many thousands of tons of shipping. In the middle of November strong carrier forces and army bombers gave it another bombing; on Thanksgiving Day American destroyers northwest of Bougainville intercepted and, without loss, destroyed all but two of six Japanese fighting ships. December brought extension of the beachhead at Empress Augusta Bay and preparation of runway facilities permitting better fighter-plane cover for attacks on Rabaul, New Ireland, and the Admiralty Islands in 1944. Fighting which had first aimed to protect transportation lines to Australia had acquired new springboards for aggressive attack.

Heartening were the strokes made in Micronesia, between the Solomons and the Hawaiian Islands. In October, 1942 an American force had struck deep into the Pacific, and on March 27, 1943 Nauru Island west of the Gilberts had its first rain of American bombs, a second following on April 21, when Tarawa in the northern Gilberts was hit also. Late in the year (Dec. 24) Nauru was still being attacked. Its phosphate-condensing plants are of special military importance to Japan.

In the spring the United States beat Japan to the occupation of Funafuti in the Ellice Islands, near the line of communications to Australia; Japanese planes attacked as early as April 22 and as late as Nov. 17. American air raids on Wake Island continued as in 1942, the one in July coinciding roughly with air attacks on Surabaya and Paramushiro, and in October a large naval force with carriers from the growing number of American vessels of this type struck the island. United States forces had lately shelled Marcus Island, about a third of the way between Wake and Tokyo.

In a dramatic step toward Truk and Tokyo, American naval forces under Admiral Spruance, head of the new Central Pacific Command, and Army units made a 76-hour attack (Nov. 20-23) on the copra atoll-islands of Makin (raided August, 1942), Tarawa, and Abemama in the Gilberts, seizing an aggregate of 166 square miles, including ground suitable for airplane bases. The combined arms, including a tremendous carrier force, gave the islands a terrific bombing and shelling and carried out fierce ground attacks in which more than 1,000 Americans and 5,000 Japanese perished. Particularly at Tarawa unexpectedly strong resistance and defensive fortifications were encountered; bombing and shelling alone were seen to be insufficient. The surprises and the horrors of this successful venture have been made widely known by reporters and survivors. Apparently no central United Nations procedure had been worked out, and both the United States and the British flags were raised, the latter to signify return of the possession to British officials, who came ashore to resume Great Britain's interrupted control. In this period the Marshall Islands to the west were hit, and in December daily air raids on the group (Wotje, Tarao, Kwajalein—the world's largest atoll etc.) were reported.

INDIA

When the United States representative, William Phillips, reached India early in January, 1943, he found a land in much of which a food shortage was becoming serious and prices were soaring. An estimated 125,000,000 persons were under-nourished. During the year food was a major political issue. In July the Government of India called a food conference; in August the mayor of Calcutta appealed to President Roosevelt and Prime Minister Churchill (at Quebec) to send food; and in September the United States Government promised aid. When autumn came thousands in Bengal were dying each week; 40,000 deaths were reported in one week. Official efforts to control prices of rice failed to curb hoarders; need of much better plans became glaring, especially at a time when Japanese war propaganda could use starvation as an anti-European political weapon. In food riots in northern India police shot at the crowds. The British people and press stirred uneasily before the evidence of the weak economic basis for political reconstruction in India. In addition, autumn brought reports of cholera, malaria, insufficient medicines, and inadequate shelter.

Imprisoned since August, 1942, Mohandas K. Gandhi announced a 21-day fast to end the deadlock between the government and the Congress Party. Appeals poured in for unconditional release of the leader; some members of the Viceroy's Council resigned; political figures assembled to seek a change in the official position; in Washington, the British ambassador was summoned to the Department of State, presumably on account of the Indian situation; the Government of India defended itself in two White Papers; some expressions of opinion in England, Australia, and China called for freedom for Gandhi. He survived his fast, but the political situation remained tense. William Phillips, about to leave for home, was not allowed to visit Gandhi or Nehru in prison. In April the Chief Justice held invalid the imprisonment of 8,000 persons for political activities, and the Viceroy shortly validated the detention of them under wartime powers.

In India, as in other parts of Asia, Moslem power was demonstrated in theory and practice. A suggestion of anti-Semitism appeared. There was evidence of a growing realization of the need of greater study of Pacific, Chinese, and Russian affairs. In Ceylon political difficulties continued to create uncertainty.

On June 22 Field Marshal Viscount Wavell took office as Viceroy, following the Marquess of Linlithgow; and General Sir Claude Auchinleck succeeded Lord Wavell as Commander-in-Chief in India. The appointment of a military man as Viceroy created resentment. In spite of evidences of loyalty to the United Nations on the part of many Indian leaders, it became increasingly clear that they will be expected to wait for major political changes until victory is won. Meanwhile, at Singapore, it was announced in July that the first Indian prisoners of the Japanese to graduate from military school would form part of a "liberation" army. Subhas Chandra Bose, who presided at the ceremonies, was reported to be calling on Indians in the East (in Malaya: over 500,000 residents) to mobilize against Great Britain. In the autumn Bose became president of the anti-British and anti-American "Provisional Government of India," under Japanese auspices; in November—at the time of the "Greater East Asiatic Nations" assembly in Tokyo—Japan assigned to the new "government" the title to the occupied Andaman and Nicobar Islands.

Early in the year an American aircraft plant, for construction and repairs, was removed from China to southern India, where Indian workers were to be trained in addition to the 13,000 already under American direction. United Nations air power was insuring India against serious attack by Japan. United States Lend-Lease Administrator Stettinius reported in March that two-thirds of the $300,000,000 worth of goods sent to India in two years had been finished munitions; a hope was expressed that machine tools and raw materials would aid industry in India and lessen the burden on shipping.

BURMA CAMPAIGN

In this *milieu* United Nations military activities proceeded. In August General Stratemeyer assumed command of American Air Forces in India, Burma, and China (including Davidson's Tenth in India and Chennault's Fourteenth in China). Early in October Lord Louis Mountbatten, of Commando fame, arrived at New Delhi to head the conglomerate forces in southeastern Asia, then suffering from professional and racial jealousies. Many British and American leaders, along with China's wide-ranging T. V. Soong, met for military discussions. Mountbatten flew to Chungking and sought Chiang Kai-shek's advice on strategy; he made a single force out of the British and American air units, under Sir Richard Peirse, whose deputy General Stratemeyer became. In November some of Chennault's planes crossed the Himalayas and flew with planes of the Tenth on two raids against Rangoon.

Apart from several Allied air attacks on the Andaman and Nicobar Islands and scattered points in Burma, the combat action was mainly on the ground fronts in western and northern Burma and in southwest China. On Jan. 1 occurred a British-Japanese clash at Rathedaung, 25 miles northwest of the Burmese port of Akyab and its airfield. On Jan. 11 the Tenth United States Air Force damaged an Irrawaddy bridge near Mandalay. Late in March it was clear that Wavell's British-Indian forces, stalled 70 miles inside Burma, had failed against the Japanese on the Mayu Peninsula and would be delayed by the rains of the approaching monsoon (June-October). To avoid a trap these forces retired from the Peninsula and later took up summer quarters in India.

It was reported that, in spite of increased Japanese air power in Burma, American bombing had made the port of Rangoon almost useless; in September General Haynes of the American forces stated that Allied air attacks had badly damaged nine-tenths of the enemy facilities in Burma. Bombing hampered the inflow of supplies and to a considerable extent compelled the Japanese to live off the country, a fact of political consequence. September saw the Japanese rushing troops to the Arakan coastal area and supplies to the Salween River front on the Yunnan border. American, Indian, and Chinese engineers were busily and dangerously engaged on the new and difficult Ledo highway, pointing southeast from Assam in India, in the jungles of the southern Himalayan slope, into the upper Chindwin River area of northern Burma, and designed ultimately to meet the old Burma Road. Chinese forces, trained by General Stilwell, guarded workers against Japanese snipers.

By November, Mountbatten's preparations to strike Burma were progressing well. Chinese troops, under American-educated General Sun Li-jen and General Boatner, advanced 50 miles to the southern end of the Hukawng Valley; December was a successful month for them. The British claimed the west bank of the Chindwin. Good use was made of air supply over the wilderness.

As in other occupied areas, Japanese political activity in Burma emphasized the form of so-called independence, thus increasing the total impression of Asiatic and anti-Western solidarity and creating a complication likely to tax the post-war ingenuity and statesmanship of the former holders of Asiatic colonies. By action early in the year, and then in the summer, the promised "independent" Burma came into being—less the two Shan states bordering on southwest China and Thailand—with Dr. Ba Maw as civil administrator. Yet, according to report, a Japanese replaced the Burmese commander of the National Independence Party's army and the Party was placed under restrictions. A declaration of war on Great Britain and the United States was reported late in August. Burmese escaping to China told of Japanese efforts to seduce the population by such means as remission of the old land taxes.

United Nations loss of oil from the Burma fields, which formerly sent large supplies to China, India, and Australia, had as one result the development of substitutes for gasoline—alcohol and charcoal (the latter especially in India and China) and corresponding mechanical changes in automobiles.

WAR OF POLITICS IN SOUTHEASTERN ASIA AND THE PHILIPPINES

The usual Japanese political tactics appeared in Malaya, where "independence" was announced by Axis sources in October, with an arrangement for provincial and municipal councils. Another report indicated that Thailand's armed forces were reorganized after a military conference with the Japanese late in 1942. Without explanation the Japanese-controlled Bangkok radio announced the resignation of the prime minister. In the autumn Tokyo reported a treaty with Thailand ceding to the latter states in Malaya and in Burma totalling over 26,000 square miles and constituting a rich reward for "cooperation." Thai control would release Japanese occupation troops for campaigns in Burma.

The treaty brought Thailand into the war against the United States and Great Britain. On Feb. 26 Generalissimo Chiang had broadcast a friendly message to the Thai people, whom he regarded simply as being in enemy-occupied territory; on Sept. 11 the puppet premier, Songgram, gave evidence of concern over popular resentment against his pro-Japanese policy.

Brief reference has been made to the East Indies, and at this point the Philippine Islands should be brought into the picture. The Japanese early promised the people independence and in the course of the winter (1942-43) announced a five-year food production plan. A Union of Japanese Employers was created, expropriation in key industries was reported, and the Japanese prescribed for labor. A year of occupation and suppression of patriots had not entirely ended the resistance of Filipino and American guerrillas in Luzon and Mindanao; interned Americans returning on the *Gripsholm* in December reported a wave of assassinations of quislings. In spite of the existence of a Japan-sponsored totalitarian party (Kalibapi), Filipino "cooperation" was insufficient to Japanese minds. Native collaborators in the "Independence Preparatory Committee," led by José P. Laurel, approved a constitution which was adopted at the first session of the "National Assembly" in September. Laurel, who had barely escaped assassination on May 5, was elected president of the future republic. S. Murata, chief Japanese adviser to the alien military administration, was shortly appointed ambassador. Laurel visited Tokyo, and on Oct. 14 Japan and Germany recognized the "Republic of the Philippines." In Laurel's cabinet were two former members of the cabinet of President Manuel L. Quezon.

President Quezon, in Washington, and President Roosevelt attempted to offset Japanese political moves. Worried about the Japanese independence plan, Quezon urged an immediate grant of independence, and the President asked Congress for authority to announce the change at the right moment. Early in November Congress voted an extension of the terms of President Quezon and Vice President Sergio Osmena; Quezon was due to reach the constitutional limit of service (eight years) on Nov. 15.

FREE CHINA

The mingling of military affairs in 1943 with economic and political questions of enduring meaning for the post-war era is impressive in the case of China. An assertion by President Roosevelt in his Jan. 7, 1943 message to Congress that as much lend-lease material was being flown into China from India as ever went over the Burma Road met prompt contradiction in Chungking. The controversy reminded that figures in terms of value give a different impression from former statements in terms of quantity; that a large part of the items formerly sent along the Road were for use on the highway itself, and on a parallel railway; and that only a fraction of the Road's traffic was of lend-lease origin. Secretary of the Navy Knox estimated that two per cent of lend-lease went to China and said that no more could be sent until either Burma or the Japanese fleet was conquered. Shipments by air to India and China require long advance planning; bulky goods require 75 to 90 days from the United States to points of use in China, where Chennault and the Chinese leaders are at the end of the world's longest (16,000-mile) supply line.

The middle of January saw a widespread offensive against the Japanese in northern Burma and western Yunnan, and serious damage was done to an advance base at Bhamo. After initial gains between the Salween and Mekong Rivers, a three-pronged offensive of the Japanese and Thai troops was checked. At a time when American bombers were striking eastern Burma the Thai troops received heavy reinforcements and in February they engaged the Chinese heavily on the southwest border of Yunnan. In March the Chinese recaptured many strategic points; after a year of attempts to cross the Salween, Japanese forces retired to the west bank. In action beginning July 3 Chinese troops obliged Japanese border forces at Mengting to retreat westward. Even with 30,000 additional troops the Japanese failed again to cross the Salween, in October; they attempted to encircle smaller Chinese units on the west bank. They were still far from the important city of Kunming in Yunnan, an objective which they would need much increased forces to take.

In southeastern China, Japanese airplanes resumed action in February, raiding the capital of Kwangsi Province, 222 miles northwest of their own positions at the port of Canton, and striking at Hengyang. Japanese troops landed at the French leased territory on Luichow Peninsula (Kwangchow Bay), administered by the government of Indo-China, and, according to report, began work on an airbase designed to block Allied flyers who might strike at Japan. In April occurred the first American air raid in the southeastern region. A month later the Fourteenth Air Force, with new Liberator bombers, heavily attacked Japanese-held Hainan Island, as well as the Hanoi-Haiphong area of northern Indo-China. The spread of American air coverage was increasing. In August came reports of a Japanese plan for a land route from south China to Indo-China, Burma, and Malaya, to avoid heavy losses from submarine attacks on shipping.

In the upper Yangtze Valley a heavy Japanese movement in the spring took Hwajung in Hunan Province. The Chinese attacked successfully in the fertile area between Lake Tungting and the Yangtze River, producing 650,000 tons of rice a year for Free China. The fourth Japanese effort to take Changsha was a failure. Hwajung came into Chinese hands. The Japanese plan, involving use of Nanking troops, possibly was designed to expose the economic disadvantages of Free China. The invaders cut the dikes in the rice area, causing wide destruction. In May they employed five divisions along the Hupeh-Hunan border, aiming at Ichang and Changteh. Compelled to retreat from their drive in the direction of Chungking, they yielded the Chinese a major victory; the joint Chinese-American air force shot down 31 planes over Ichang.

In spite of loss of ground, and possibly 30,000 of 100,000 troops, the Japanese renewed offensive preparations in June. General Ch'en Ch'eng, who had been called from the Burma front to turn them back, expressed confidence; he also criticized previous Chinese negligence which, he believed, had allowed the initial Japanese penetration. Japanese use of Nanking troops was a boomerang, for important desertions to the Free China forces occurred.

Late in July many Japanese planes attacked two American airfields in Hunan, and on Aug. 23-24 they moved against Chungking, for the first time in two years. The first raid reached the environs of the city but the second was cut off and repelled.

In the course of their attack on the Hunan rice-bowl area, early in November, the Japanese finally took Changteh, but held it only six days before the valiant Chinese forces retook it (in the middle of December) and drove the invaders toward the Yangtze. The city suffered great damage and the stores of rice were seized or burned. Chinese strength had parried a serious threat to American airbases in Central China.

On Thanksgiving Day the Fourteenth Air Force of Americans and Chinese made a precisely timed surprise attack on the Shinchiku airdrome on Formosa, destroying many planes and returning safely.

Farther north the Chinese began the year with a notable victory, regaining the strategic Japanese base at Sinyang in southern Honan Province, along the Peiping-Hankow railway. Strong guerrilla forces in Shantung continued operations. Model treatment of Japanese prisoners by guerrillas was reported. Territory under control of the latter is called "the Land of Five Withouts" (beggars, opium, etc.). In April, Japanese troop movements from Manchuria were reported, possibly as a preparation against United Nations drives in southeastern Asia and the southwest Pacific. Enemy forces were thrown against the coalfields of northern Honan and against Chinese guerrillas along the mountainous Honan-Shansi border, where 10,000 Japanese troops attacked early in July. The populations of some coastal districts, in which the Doolittle flyers had received aid, were reported wiped out.

In the general area of the lower Yangtze, the Japanese early in 1943 completed a naval supply base on Siangshan Bay, south of Shanghai. Late in April came news of the plan for a naval base northeast of Foochow, to implement anti-submarine arrangements. Before spring came the Chinese had taken the capital of Anhwei Province and the Japanese air base at Kinhwa in Chekiang, where guerrillas had been active and the Japanese feared that the United Nations might base planes for the bombing of their country. Apparently the enemy were able to reopen the Chekiang-Kiangsi railway. In October they seized Kwangteh, a rail center below Nanking; but they were soon stopped, Kwangteh was recovered, and Siaofeng, near Hangchow, was occupied by the Chinese.

Over and above the fighting there were general changes of military importance and developments on the international, or United Nations, political and economic front. Early in January, in the midst of dissatisfaction over the inadequacy of lend-lease supplies and fear of a "new isolationism" in the United States, it was suspected, and denied, that the head of the Chinese military mission to the United States had been "recalled."

March brought the creation of the Fourteenth United States Air Force as a separate unit in China, under General Claire L. Chennault, who, with General Stilwell, conferred with Secretary of War Stimson in Washington late in April.

China continues to be largely dependent on trans-Asiatic routes and Indian bases for important supplies. In May Tibet modified its closed-door policy so that non-military supplies might reach China from India over its high-altitude route (aver.: 12,000 ft.). In July plans were ready for a new supply route from Karachi in India, by way of Baluchistan, Iran, and Soviet Asia; and in the autumn the United States War Shipping Administration assigned two Liberty ships for operation during the war under the Chinese flag. China refused three separate Japanese peace offers, the last calling for joint anti-Occidental action. Mention has been made of T. V. Soong's presence at Quebec (August), where the war against Japan and aid to China received much attention. Chiang Kai-shek participated in important British-American military conferences.

Summer brought the "return" (by Japanese action) of the Shanghai International Settlement to the Nanking government. On the sixth anniversary of China's "War of Resistance and National Reconstruction" Chiang voiced his belief in victory for the United Nations and pointed to their new initiative and growing production. New plans had lately been formed for administration of Chinese industrial cooperatives, in conjunction with H. H. Kung, Minister of Finance. Distressing conditions appeared as land values soared in cities of Free China, especially at Chungking, following the influx of refugees from Occupied China.

Economic life in Free China presented other problems, one of which involved use of valuable space on planes. As prices went up and the value of money dropped there was less and less to buy. Although the large agricultural population relied on barter, the salaried middle classes were tragically cramped, with the cost of living more than 150 times what it had been when 1937 brought the war to China. The budget was unbalanced and the peasants' ownership of their land was threatened. Into this disturbing situation flew air transports with tons of baled currency, produced abroad in the hope of bringing some temporary relief.

On Aug. 2 Lin Sen, President of China since December, 1931, died. On Sept. 13 Chiang Kai-shek was elected his successor (for three years instead of two), with continuing power as head of the armed forces and with responsibility only to the Central Executive Committee of the Kuomintang Party. This body promised a national assembly one year after the war to adopt a constitution to replace the 1927 Organic Law and to end one-party government. The new President appointed two Communist leaders to a committee of 60 to draft the constitution.

OCCUPIED CHINA

In the occupied portion of China the year brought further evidence of the meaning of the Greater East Asia Co-Prosperity policy, and Japan's plan to erase Occidental arrangements and capture the aid and loyalty of East Asiatic peoples. On Jan. 9, under pressure from Japan, Wang Ching-wei's puppet government at Nanking (exercising some authority over perhaps 50,000,000 people) declared war on Great Britain and the United States. Twelve thousand nationals of these two countries were then in Shanghai.

A new agreement between Nanking and Japan called for restoration by the latter of administrative rights in Japanese concessions, renunciation of Japanese extraterritorial rights in "Nanking" China, and Japanese maintenance of Chinese interests at the international concessions at Shanghai, Amoy, and Peiping. Subsequently Premier Tojo visited Nanking. One report indicated that the government was supplying manpower to the Japanese (including 15,000 workers sent to Japan each month) and that since 1937 1,500,000 persons a year had been sent to Manchuria. In June Madame Chiang told the Canadian Parliament that in the course of a year Japan had taken 100,000,000 tons of raw material from Occupied China.

JAPAN: FROM OFFENSE TO DEFENSE

As far as circulation of reliable news is concerned, Japan has partially returned to a state of seclusion, but various Axis and Allied reports and rumors which follow suggest that the nation, though still intent on the prosecution of the war, has now begun to recognize United Nations might. Oppressed by official reports of his nation's danger a leading Japanese fascist editor, Nakano, committed formal hara-kiri.

The year began with the significant closing of the Yokohama Silk Exchange. A glut of crude rubber in the Japan market brought the price below one cent a pound (22½¢ before the invasion of the East Indies and the cutting off of the world market). The sugar market in Eastern Asia was also disorganized. With an asserted 33,000,000 barrels of petroleum a year, largely from conquered lands, Japan's oil problem appeared to be one of inadequate transportation and refineries rather than one of supply. Its merchant marine reduced by perhaps one-third, largely as a result of submarine attacks, the nation faced the need of concentrating on shipbuilding. In October the government was reported to own half of the enormous Mitsubishi and Sumitomo business enterprises; the following month the official consolidation policy resulted in a cut in the number of firms permitted in foreign trade from 6,000 to 600, on the basis of the size of previous turnover.

Japanese activities in occupied countries revealed her need of textiles and heavy industry goods. Agricultural Korea showed evidence of industrialization. Plans were made to increase cotton production in the "co-prosperity sphere," with consequent reduction of sugar-cane acreage in the Philippines and rice land in Thailand. Like Indian rice, the bumper crop of Burmese rice was not carried to those who needed it. According to Chinese officials, the Japanese were using long-range submarines to transport metals and rubber to Germany, in return for technical advice.

Premier Tojo's dictatorial position was strengthened in 1943. His alleged illness ominously delayed for a week the session of the Diet called for Jan. 21. In March that body approved the elevation of his status above that of other ministers and the addition to his duties of Premier (and War Minister) of those of War Production Chief, but, nevertheless, leading industrialists were appointed to new advisory boards.

Conflicts of views continued in Japan, even within the armed forces. The Japanese Press Patriotic Association attempted to unify public opinion. Fear of outbreaks of individualism and liberalism brought tighter control over newspapers, in April, and the death penalty (without trial) was announced as the punishment for efforts—or an admitted desire—to alter the government's war policy. Changes in the government included the dropping of four Cabinet ministers. Tojo took over the Ministry of Education. Mamoru Shigemitsu, formerly ambassador to Russia and to Great Britain, became Foreign Minister.

On June 16 a special brief session of the Diet opened, questions regarding the war being forbidden. Tojo gave one of the mounting number of warnings regarding strong Allied offensives. In July he called seven ex-premiers into conference with government officials. In August all public gatherings lacking permission of the propaganda agency were forbidden. New Cabinet changes followed in the autumn, and additional duties were taken over by the Premier, who gave serious attention to problems of the munitions industry.

In 1943 the Russian neutrality pact of April, 1941 continued in force; renewal of the annual fisheries agreement has been noted. Russian victories over Germany, however, created concern. Soviet troops along the boundary immobilized as many Japanese troops as the fighting Chinese did. According to Chinese estimates, the Japanese army in 1943 stood at almost 100 regular divisions of less than 20,000 men each and several dozen reserve divisions; approximate figures for different regions were —Korea and Manchuria 39, China 30, the Pacific and Indonesia 18, southeastern Asia 10.

Symbolizing previously related political maneuvers in conquered territories, the "Greater East Asiatic Nations" gathering on Nov. 5 included representatives of five "independent" occupied countries. The possible propaganda value of religion was suggested by Japanese creation of an East Asia Religious League; interesting efforts were made to win the favor of members of very different faiths, including the Roman Catholics in the Philippines. Much of Japanese propaganda, of course, is directed at populations which are without much education.

The present narrative of Japan's fighting on several fronts is hardly the story told the Japanese public. The people probably do not realize, for example, that between Jan. 1, 1942 and June 9, 1943 their air force in the southwest Pacific lost 2,124 planes destroyed or damaged (535 definitely lost Jan. 1-June 9, 1943). In February a reported Japanese announcement told of the evacuation of Guadalcanal after the troops' "mission had been fulfilled." Zoot-suit rioters in California were represented as courageous young isolationists with "sacred ideals." At the same time the old view of Americans as a soft race was replaced by an official representation of them as a very formidable opponent.

THE UNITED STATES: FROM DEFENSE TO OFFENSE

In his Jan. 7, 1943 message, President Roosevelt sounded the new keynote of offensive action in the Pacific; a month later he discussed the meaning of the Casablanca conference for the war in the Orient, promising decisive action to expel the Japanese from China. Productive conversations between Generalissimo Chiang and American leaders followed.

It was later revealed officially that the majority of American overseas forces were in the Pacific area. In November, the published total of Japanese ships sunk by United States submarines was 346, with 36 probably sunk and 114 damaged. However, Admiral King pointed out that holding operations must predominate until Germany is beaten. In August the British Lethbridge military mission planned for strong cooperation against Japan. Considerable discussion of the background of the war followed release of the State Department's *Peace and War: United States Foreign Policy, 1931-1941*, with documents.

Of notable wartime interest were measures taken within the United States in relation to alien Japanese and Americans of Japanese ancestry. Among the year's developments were the progress of relocation and the easing of restrictions on the American citizen group to facilitate enlistment in the armed forces and in war production, segregation of troublesome anti-American persons, a riot of rebellious Japanese at Tule Lake, exchange of many persons loyal to Japan, and reports of the excellent performance of American troops of Japanese ancestry in Italy and the usefulness of others in intelligence work in the southwest Pacific. Especially notable among the reports of the many Americans who had returned from Japan or Japanese-occupied territory were the temperate but firm public utterances of former Ambassador Grew, who discussed future treatment of the Japanese with a constructive wisdom and detachment which resembled the courageous purity of Madame Chiang's far-seeing post-war views on that subject.

During the year the American government allowed qualified Filipinos to become officers of the United States Merchant Marine. Repeal of the Chinese Exclusion laws highlighted the remaining American discrimination against other Asiatic peoples. Chinese relief activities, aid to American colleges in China, and similar activities continued. Profits from the sale of the recordings of Madame Chiang's speech at Wellesley were assigned to China Relief. Her moving addresses before Congress and other North American audiences and those of her brother, T. V. Soong, created wide interest. They showed the need of understanding the aroused political sentiment of Asia and formulating policies now, if good relations are to increase.

Particularly encouraging for the war effort and post-war prospects was the extraordinary progress made, especially by military personnel, in the intensive study of several essential Asiatic languages and cultures. Improved training programs in the United States (and in some other units of the United Nations) have carried forward the preparation of specialists in military government who will exercise a welcome influence in the post-war management of occupied areas. Mention should be made of the striking performance of the United States Air Service Command. Its fine general organization and the ingenuity in the Orient and the Pacific facilitated the march toward victory.

THE WAR AND THE NEAR EAST

By Wheeler B. Preston
Author and Publicist

GENERAL

Although the conflict did not spread to the Near East in 1943, as had been widely feared, its repercussions affected the region more, perhaps, than at any previous period since the war began. Iraq and Iran were the first of the independent nations of the Near East to declare war on the Axis and to subscribe to the Declaration of the United Nations, but the improvement of the Allied situation throughout the world induced the others to exhibit a more benevolent neutrality than theretofore. This was particularly true of Turkey. The results of the discussions between Turkish and Allied leaders during the year were not made public, but it was felt that the steady Russian recovery and the visible weakening of Germany might induce Turkey to grant certain much-desired facilities of transit when the Nazis were no longer in a position to retaliate.

A new departure in the foreign policy of the United States was the interest displayed by the State Department in the affairs of countries of the Near East, and particularly in the approaches to Saudi Arabia, whose petroleum deposits were of immense economic and strategic value. Feeling continued to run high in Palestine between the Arabs and the Jews. A number of the latter were convicted by a British military court of securing and storing arms and ammunition obtained by bribery, and the former sent delegates to the Pan-Arabian Conference, which met in Cairo during October-December, to protest further Jewish settlement in Palestine. Sheik Youssef Yassin, chief Saudi Arabian delegate to the

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conference, claimed that the Arab-Jewish controversy in Palestine was part of the pressing Pan-Arabian question, but Mustafa Nahas Pasha, Premier of Egypt and chairman of the conference, was unwilling to attempt a settlement with the Jews until after the war.

EGYPT

Egypt, freed finally from the danger of Axis invasion when Rommel's forces were driven headlong across the frontier back into Libya by Montgomery's men, continued to preserve a nominal neutrality in the war, largely because of the risk of aerial attacks upon Cairo from German positions in the eastern Mediterranean. Nevertheless, the country was an important center for Allied activities in the Near East. Besides the large civil and military missions, the United States and Great Britain maintained in Cairo diplomatic representatives of ambassadorial status with authority in all the Near East region, and in 1943 the city became, too, the headquarters of the governments-in-exile of both Yugoslavia and Greece. It was also the scene of highly important conferences of the Allied leaders (see "The United States in Wartime").

IRAQ

The first independent Arab nation to join the cause of the United Nations was Iraq. The misfortunes that had beset Great Britain and France early in the war had made it relatively easy for enemy agents to sow seeds of mistrust in Iraqi minds and, in some instances, to bring about actual hostility. Increased Axis activity after Rashid Ali el Gailani became Premier in 1941 caused the British to occupy the country, but even after Rashid Ali and other malcontents had fled the country it was still difficult to eliminate all the offensive activities of the enemy. The Iraqi Army, however, cooperated with the British in the task of getting supplies to Russia and in protecting the valuable oil fields from air attacks, and in 1942 a det[illegible] of U. S. troops also arrived in the country to supplement the garrison.

This visible evidence of Allied military strength and the growing conviction that the United Nations had attained the upper hand in the world conflict (not to mention the prospect of lend-lease supplies) persuaded the Baghdad government where its best interests lay. Accordingly, on Jan. 16, 1943, Iraq declared war on Germany, giving as the grounds open interference by the Nazis in the domestic affairs of the country; German instigation and promotion of "outright rebellion" against the government of Iraq; the dissemination by the Nazis over the radio of lying rumors and reports, and "vile slanders" against the royal family; and "direct encouragement to disaffection and unrest" in Iraq by Germany. Italy and Japan were linked with all these activities, and war was declared against them simultaneously also. As a corollary to this action, on Jan. 16, Iraq formally entered the ranks of the United Nations by signifying adherence to the Declaration of Jan. 1, 1942.

LEBANON

In June 1941, on the eve of the entry of the Allies into Syria and Lebanon, Gen. Georges Catroux, a leading French expert in Moslem affairs, had promised the Lebanese on behalf of the Fighting French movement that the mandatory regime would be terminated and freedom and independence proclaimed. More weighty matters, however, preoccupied the Fighting French, and these promises remained for long unfulfilled. As a consequence, an internal crisis was precipitated early in November, 1943, when the Lebanese Chamber of Deputies, irritated by the delay, passed a law by which henceforth the French should have no say in what might or might not be discussed in the Chamber, and decided that the Lebanese would have their own flag, and Arabic would be henceforth the state language.

Thereupon the French administration acted. On Nov. 11 Jean Helleu, High Commissioner in the Levant for the French Committee of National Liberation, arrested the Lebanese President, Bechara el-Khoury, the Premier, Riad Solh, and such other members of the local government as could be found, dissolved the newly elected Chamber of Deputies, and assumed charge of state affairs through a nominee. These actions resulted in a general strike throughout the country and serious riots in Beirut.

Following protests against the acts of the High Commissioner by both the British and Egyptian governments, the French Committee, in Algiers, sent Gen. Catroux back to Lebanon, where order was being preserved only by the employment of troops, and meanwhile the treatment of Lebanon was also protested by the United States and by King Ibn Saud. The French had to give way and reverse their actions.

On Nov. 21, acting on Catroux' recommendation, the French Committee issued an announcement in Algiers that the President, the Premier and the other members of the Lebanese government were to be released, and undertook that as soon as "constitutional life" had been reestablished in Lebanon the Committee would open with the Syrian government "negotiations necessary to the harmonizing of the French mandate with the regime of independence promised by France to the States of the Levant." The officials in question were released Nov. 22, and the Lebanese Chamber was reinstated the next day.

The Lebanese dispute was of considerable embarrassment to the Allies. It was realized that, to give moral support to the Lebanese meant being against the French Committee, who were also fighting the Germans, while to be pro-French might excite the charge of failing to observe the principles of the Atlantic Charter. Moreover, the entire Moslem world supported their Lebanese co-religionists, and therefore the French action added fuel to the growing movement for Pan-Arabian nationalism. This was evidenced in January, 1944, when the King of Egypt received Premier Solh as an honored guest on his visit to Cairo to seek closer post-war Arab unity.

IRAN

With a view to expediting the conveyance of lend-lease goods into Russia, operation and partial reconstruction of the Iranian railway from the Persian Gulf was taken over by American railway engineers, and on Dec. 17, 1942, the U. S. Persian Gulf Command, of which the engineers were part, came into existence. The presence of so many Americans, in addition to the Russians and British who had divided the country into spheres of military influence, led the Iranians to fear that their removal after termination of the war might prove difficult. As a consequence, the Iranian Minister of Communications and Railways visited London in October to discuss the subject.

The strained relations which had formerly existed between the Iranian government and the Allies had disappeared by this time, for on Sept. 9, 1943, following the example of its neighbor, Iraq, the Iranians had declared war against Germany and had become the thirty-second nation to adhere to the Declaration of the United Nations. In November, when the Anglo-American leaders met with Marshal Stalin in Teheran (see "The United States in Wartime"), the future status of Iran was one of the subjects discussed.

The outcome was the issuance on Dec. 1, 1943 of a highly reassuring joint statement concerning Iran. The three powers formally recognized the aid which Iran had given in the prosecution of the war, promised to continue to make available such economic assistance as might be possible, and undertook that any economic problem confronting Iran at the close of hostilities should receive full consideration along with those of the other members of the United Nations. The statement said, further, that their governments were "at one with the government of Iran in their desire for the maintenance of the independence, sovereignty and territorial integrity of Iran," and that participation of Iran was counted upon "in the establishment of international peace, security and prosperity after the war, in accordance with the principles of the Atlantic Charter, to which all four governments have continued to subscribe." This statement gave particular satisfaction to Turkey, for Stalin's assurance of Iran's territorial integrity gave reasonable assurance that the Soviet government had no designs on Istanbul and the Bosporus, as enemy agents had steadfastly insisted. The full text follows:

"The President of the United States of America, the Premier of the U.S.S.R., and the Prime Minister of the United Kingdom, having consulted with each other and with the Prime Minister of Iran, desire to declare the mutual agreement of their three Governments regarding relations with Iran.

"The Governments of the United States of America, the U.S.S.R. and the United Kingdom recognize the assistance which Iran has given in the prosecution of the war against the common enemy, particularly by facilitating the transportation of supplies from overseas to the Soviet Union. The three Governments realize that the war has caused special economic difficulties for Iran and they agreed that they will continue to make available to the Iran Government such economic assistance as may be possible, having regard to the heavy demands made upon them by their world-wide military operations and to the world-wide shortage of transport, raw materials and supplies for civilian consumption.

"With respect to the post-war period, the Governments of the United States of America, the U.S.S.R. and the United Kingdom are in accord with the Government of Iran that any economic problem confronting Iran at the close of hostilities should receive full consideration along with those of other members of the United Nations by conferences or international agencies, held or created, to deal with international economic matters.

"The Governments of the United States of America, the U.S.S.R., and the United Kingdom are at one with the Government of Iran in their desire for the maintenance of the independence, sovereignty and territorial integrity of Iran. They count upon the participation of Iran, together with all other peace-loving nations, in the establishment of international peace, security and prosperity after the war, in accordance with the principles of the Atlantic Charter, to which all four Governments have continued to subscribe."

SAUDI ARABIA

Contributions of the United States to the Allied war effort in the Near East were centered chiefly in the big base built in Eritrea by American engineers, operation of the railway in Iran and of the immense supply depots in Egypt, and maintenance of a garrison in Iraq. In addition, however, the American Government sought during the war to establish an influential position in Arabia, and particularly in Saudi Arabia, in spite of the fact that the kingdom continued to preserve a strict neutrality. At the invitation of the American Government, the son of Ibn Saud paid a visit to the United States during September-October, at which period he presented to President Roosevelt a diamond-studded scimitar as a gift from his royal father. During December a United States special mission arrived in Saudi Arabia, where it was to make an intensive study of economic, public health, military and communications problems. It was reported during October that the Government's Petroleum Reserves Corporation was negotiating through Secretary Ickes with the California Arabian Standard Oil Co.

for a participating interest in the development of the company's concessions in Saudi Arabia. Possibly because the question of Government partnership with a private enterprise was too much of a political liability, the Government announced on Nov. 4 that the plan had been discarded. The company decided, however, to proceed alone with the program of expansion, but to spend only about half of the $120,000,000 that would have been allocated to a refinery with Government co-operation; and the company also planned to expand its refinery at Bahrein, an island sultanate in the Persian Gulf which was under British protection.

TURKEY

Under the terms of their treaty of Oct. 19, 1939, with Great Britain and France, the Turks were obligated, in the event of the war spreading to the Mediterranean area, to render to those countries "all the aid and assistance in her power." The treaty did not become effective, however, partly because Britain and France were unable to provide Turkey with all the arms they had undertaken to supply, but more particularly because of the Allied failures in the war. Sarcastically, it was commented in Ankara as things went from bad to worse, that "Britain is our ally but Germany is our friend." Turkey had, too, a friendship pact with Russia, but in her realistic view that was no reason for a break with the Axis powers when at their maximum strength. The course taken by the war through 1942, however, appeared to have made an impression on Turkey, though certainly not as much as the Allies would have liked.

Following the meeting in Casablanca during January, 1943, between President Roosevelt and Prime Minister Winston Churchill, the latter went on to the Near East in order to meet the Turkish President, Ismet Inonu, at Adana, a town in Turkey just across the Syrian frontier. No information was vouchsafed as to the tenor of their discussions, nor was any forthcoming after Foreign Secretary Eden met the Turkish Foreign Minister, Numan Menemencioglu, in Cairo on Nov. 5-6. Just a month later, on Dec. 4-6, Mr. Roosevelt and the Prime Minister, together with the Russian Ambassador to Ankara, held a conference in Cairo with the Turkish President and Foreign Minister. The Allied statesmen, who had just returned from the Teheran Conference, presumably knew the attitude of Stalin toward Turkey. Again, however, the world learned nothing of the decisions reached; a communique that was issued after the meeting remarked that "the closest unity existed between the United States of America, Turkey and Great Britain," but said little else. The best clue to the position was the remark of Menemencioglu at a press conference on Dec. 8 that Turkey's "foreign policy remains unchanged."

THE UNITED STATES AND LATIN AMERICA

By Graham H. Stuart
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LATIN AMERICA AND THE WAR

The progress of the war tended continuously to bring the United States and the Latin American republics into even closer relationship. When on Jan. 20, 1943, Chile broke diplomatic and commercial relations with the Axis powers, Argentina was the only neutral left of the 21 American republics. The action of the Rios government was very popular and a great public demonstration supporting the breach occurred on Jan. 28. Chile quickly placed some 300 German and Japanese suspects in concentration areas and compelled the

Transocean and Stefani news agencies to suspend operations.

Three more Latin American republics adhered during the year to the Atlantic Charter and the Declaration by the United Nations: Peru on Feb. 13, Brazil on March 6, and Bolivia on April 27, bringing the total number of adherents to 32. Bolivia, by executive decree, recognized that she was in a state of war with the Axis powers on April 7 but a formal declaration was not passed by the Congress until Dec. 6. On Nov. 27 Colombia announced that she was in a state of belligerency with the Axis powers. On several occasions it was claimed by authoritative sources that Argentina was about to sever relations and thereby fulfill her obligations but at the end of the year the Ramirez government still carried on diplomatic relations as usual with the Axis ambassadors.

BRAZIL IN THE WAR

Brazil was the first South American country to declare war on the Axis and gave immediate help in checking the submarine menace in the seas adjacent to her coasts. By the end of 1943 it was reported that nine submarines had been sunk by the Brazilian air force and eight by the Brazilian navy. As a result of American aid Brazil's army, navy, and air force had been increased and well equipped. Towards the end of the year it was announced that a Brazilian expeditionary force would leave Rio for the European front. About 100 Brazilian army officers were training in the United States during the year. Natal had been made a great air base and upon his return from Africa in January 1943, President Roosevelt stopped off in Brazil to see President Vargas, and both agreed that never again should the coasts of Dakar and West Africa become an invasion threat to the Americas.

As a part of Brazil's war service, a great effort was made to increase rubber production. June was made a "rubber month," and during that month an official delegation of Brazilian and United States experts left for a visit of inspection of the Amazon Valley rubber production centers. Upon the experts' return they predicted that the 1944 rubber crop would top 50,000 tons.

UNITED STATES EXPENDITURES IN LATIN AMERICA

A violent attack was made by Senator Hugh Butler of Nebraska on the expenditures of the United States in Latin America in the Senate chamber on Nov. 26, 1943. Senator Butler had taken a trip through Latin America during the summer as a special investigator at his own request for the Joint Committee on Reduction of Non-Essential Federal Expenditures and for the Special Committee Investigating the Defense Program. His thesis was that the good neighbor policy had become the policy of the rich uncle, using the United States Treasury to buy collaboration with a profligacy which would bring disastrous results later. He claimed that over $6,000,000,000 had been expended and promised to file a document supporting his claims. In as much as Senator Butler had previously publicized some of his findings in an article entitled "Our Deep Dark Secrets in Latin America" published in the December issue of the *Readers Digest,* his attack brought about violent repercussions both in North and South America.

On Dec. 13, in the Senate chamber, Senator McKellar replied to Senator Butler, denying categorically his charges of waste and declaring that Senator Butler's figures were not merely misleading but absolutely false. In fact, instead of an expenditure of over $6,000,000,000, the total expenditure for 1941-3, inclusive, amounted to less than $1,500,000,000 of which more than $1,000,000,000 had been used to purchase strategic materials and ships. Therefore, the actual expenditure in Latin America for the three years was actually $324,185,000, that is, Senator Butler was just 95 per cent wrong in his estimate. Senator McKellar than proceeded to point out that in the $325,185,000 there was included $158,000,000 of military and naval expenditures, $7,000,000 for sanitation around airports and bases, and $30,000,000 which will be returned on a lend-lease basis. This reduced the expenditures on non-war purposes to $178,000,000.

Senator McKellar than inserted documentary statements by the heads of every agency authorized to carry on financial transactions of any sort with Latin America completely refuting the allegations of huge and reckless expenditures made by Senator Butler. The statements of Secretary of Commerce Jesse Jones and Warren Lee Pierson, head of the Export-Import Bank, indicated that the loans made to the Latin American republics were well secured, and in many cases substantial repayments had already been made. The total value of lend-lease materials and services, made available to Latin American countries for the three fiscal years 1941-43, amounted approximately to $93,646,000, and all assignments of military and naval equipment had been approved by the military and naval authority acting under the direction of the Joint Chiefs of Staff.

Nelson A. Rockefeller, Coordinator of Inter-American Affairs, whose organization has been most publicized for alleged propaganda in Latin America, gave a summary of the expenditures made by his office, showing that only $29,168,997 had been spent of the $79,543,270 made available, and of the amount spent over $10,000,000 had been spent on programs of food, health and sanitation, and emergency rehabilitation.

Secretary of State Hull declared that Senator McKellar had effectively demolished the figures and conclusions on which Senator Butler based all or virtually all his indiscriminate attacks and that the effects of such accusations constituted a most unfair and unfounded attack, calculated to injure the whole good neighbor policy. When Senator Butler's full report was published as a Senate document, Senator McKellar's reply was attached as were the papers from the various heads of departments. It was evident that Senator Butler had weakened or destroyed his case by his extravagant statements and his inaccurate figures.

RELATIONS WITH MEXICO

The relations of the United States with Mexico, both politically and economically, became increasingly closer as a result of war conditions. An agreement between the governments on the principles applying to mutual aid in the prosecution of the war against aggression was signed on March 18, 1943 by Cordell Hull, Secretary of State, and Dr. Don Francisco Castillo Nájerá, Ambassador of Mexico in Washington.

During April President Roosevelt visited President Manuel Avila Camacho at Monterrey, and President Camacho returned the visit at Corpus Christi. On Jan. 30 the new trade agreement with Mexico entered into effect bringing the number of the agreements with Latin American republics to 15. The trade agreement was approved unanimously by the Mexican Senate. Like other similar agreements, the treaty will run for an initial period of three years and then remain in force indefinitely until denounced by either party. The United States granted concessions upon all strategic materials and upon a large number of industrial and agricultural products; it also canceled the existing quota restrictions on Mexican crude and fuel oil. In return, Mexico granted concessions on United States cattle and meat products and various other commodities including dairy products, poultry, fruits, and tobacco.

A new agreement was entered into on May 1 for the temporary migration of non-agricultural workers with guarantees similar to those made by the agreement of Aug. 4, 1942 which had brought in some 15,000 agricultural workers to harvest essential war crops. The new agreement was expected to bring in some 6,000 maintenance of way workers for the South Western Railroad.

One of the important results of the meetings between the presidents was the establishment of a joint economic committee to study the balance of international payments and the resulting economic situation of Mexico and to formulate a program of joint economic cooperation. The two United States experts chosen were Under Secretary of Commerce Wayne Chatfield Taylor, and Harry D. White, Assistant to the Secretary of the Treasury. The Mexican Government named Valentin R. Garfias, a mining engineer, and Evaristo Araiza, general manager of the Monterrey Steel Works. The committee worked from May 21 to July 2, part of the time in Washington and part of the time in Mexico City.

The report emphasized the necessity for the continuance of the joint activities of the two nations in the production of war materials. Mexican civilian economy must be maintained during the war period and at the same time ways and means provided by long range plans whereby the development of Mexican national economy may best be furthered by closer cooperation. Recommendations were made to increase the production of food both during and after the war. Further development of transportation was urged, and an industrialization program was suggested based upon available raw materials, power fuel, and trained labor. The committee recommended that a small industrial commission be created by the Government of Mexico to develop and carry forward a long term program for the industrialization of Mexico. The committee also urged greater attention be given to attracting tourists in the post-war period and that a systematic exchange of students, teachers, and technicians be instituted.

FINAL SETTLEMENT OF THE OIL QUESTION

It will be remembered that the United States and Mexico made a settlement of the dispute over the expropriation of American petroleum properties in Mexico on Nov. 19, 1941, whereby the two governments agreed that each would appoint an expert to determine the just compensation to be paid nationals whose properties had been affected to their detriment by the Mexican Government. Two experts were appointed, and according to their recommendation an evaluation of $23,995,991 was placed upon losses sustained by American citizens with interest at three per cent per annum from March 18, 1938 to the date of final settlement on all balances due. The oil companies except Sinclair, which had already made a separate settlement, objected to the terms but the United States Government declared the evaluation final.

It only remained to determine the manner and conditions of payment, and they were agreed upon through notes exchanged on Sept. 29, 1943. Mexico had already made a cash deposit of $9,000,000 at the time of settlement. The sum remaining with interest from March 18, 1938 to Sept. 30, 1947 amounted to $20,137,700.84. It was agreed to pay this balance as follows: $3,796,391.04 on Sept. 30, 1943 and the balance in four equal annual installments, each of $4,085,327.45.

Without any hope for further assistance from the government in pressing their claims there was nothing for the oil companies to do but accept the settlement. The first to agree was Standard Oil of New Jersey which was by far the largest claimant, and in October it agreed to accept the $22,000,000 which it had been awarded. There seemed to be little doubt but that Standard of California, Consolidated, Sabado, and Seabord would fall into line.

CUBA AND THE CARIBBEAN

Several important changes have occurred in the Caribbean area as a result of the war. The shortage of ships and the submarine campaign brought about a serious crisis in the food situation. On the other hand the war needs stimulated a vast increase in the production of strategic materials. A Caribbean Office had been set up in the Department of State in October 1941, and in March, 1942 the Anglo-American Caribbean Commission was established. These two agencies concerned themselves with various matters pertaining to labor, agricultural, and social welfare, and they were aided by a Caribbean Office set up in the Lend-Lease Administration. An increase in food production and building up of food reserves were immediately given consideration. With the aid of other agencies, such as the Board of Economic Warfare, the Commodity Credit Corporation, and with financial aid from Export-Import Bank, by 1943 programs of increased food production were worked out for Cuba, the Dominican Republic, Haiti, and Venezuela.

On April 3, 1943 an agreement was signed between the Commodity Credit Corporation and the Cuban Sugar Stabilization Institute with regard to the disposition of the 1943 Cuban sugar crop. The arrangement provided that the United States would buy 2,700,000 tons of raw sugar at 2.65 cents a pound f.o.b. Cuban ports. It was also agreed that the 300,000 tons of the 1943 crop which was usually marketed elsewhere than in the United States should be offered to the Commodity Credit Corporation before being offered to other purchasers. A similar agreement was signed Sept. 22, 1943 whereby the United States promised to buy 4,500,000 short tons of the 1944 Cuban sugar crop at 2.65 cents a pound f.o.b. Cuban ports.

The production of refractory chrome in Cuba has increased 400 per cent since the outbreak of the war, manganese has doubled, and a $30,000,000 plant for the production of nickel is now being completed in Cuba. Haiti has a large scale project for growing cryptostegia as a source of natural rubber, and the Haitian sisal industry is expanding rapidly. Loofa sponges for filters in marine engines are being produced in considerable quantities in Cuba and the Dominican Republic.

RELATIONS WITH ARGENTINA

The foreign policy of Argentina was beclouded considerably during 1943 owing to the fact that it was a presidential election year and internal politics were rampant. President Castillo had picked his successor but a practically bloodless revolution engineered by an army officer clique was successful, and on June 5 President Castillo resigned and General Arturo Rawson, one of the leaders of the revolt, took over. When he was unable to form a cabinet Rawson handed over the office to General Pedro P. Rimírez, former Minister of War.

Public opinion in Argentina seemed to expect closer cooperation with the other American republics but it soon became evident that the new government had no intention of breaking with the Axis. The United States extended recognition to the new government on June 11, 1943 and awaited developments. They were quickly forthcoming.

Foreign Minister Segundo R. Storni lifted the ban on code messages by cable for a short period to permit the Axis powers to establish other means of communication. On July 4, 31 Germans charged with espionage were released in Buenos Aires. The Nazi organ *El Pampero* continued to publish scathing attacks upon the democracies.

The Argentine Government was very eager to obtain oil drilling equipment in the United States and promised to deliver oil to Uruguay, Paraguay, and southern Brazil, and thus release American tankers for other areas. The United States, however, was not willing to make any commitments until Argentina clarified her foreign policy. In fact, on Aug. 1 the Office of Economic Warfare rescinded all licenses to export to Argentina issued before May 1 as a means of control over American exports reaching black listed firms.

The announcement on Aug. 21 that Great Britain had signed an agreement with Argentina to purchase the entire exportable surplus of Argentine meat for two years chilled the hopes of putting economic pressure upon Argentina to split with the Axis.

SECRETARY HULL AND ARGENTINE FOREIGN POLICY

An exchange of letters between Foreign Minister Storni and Secretary of State Hull in the month of August indicated clearly the wide gap between the attitudes and policies of the two governments. In his letter to Mr. Hull, Admiral Storni claimed that Argentina's neutrality had been misunderstood. In fact, it was a policy of benevolent neutrality aiding the cause of the United States. Therefore, the refusal of the United States to furnish machinery for the production of oil was not understandable. He then suggested that if, as a gesture of friendship, the United States would send airplanes, spare parts, and armaments to Argentina, thus returning her to her former military and naval status in South America, the evaluation of public opinion against the Axis would be more rapid.

Mr. Hull minced no words in his reply. After calling attention to Argentina's failure to carry out the commitments of the Rio conference, he pointed out emphatically that questions of military and naval equilibrium as between American republics were inconsistent with the inter-American doctrine of the peaceful settlement of international disputes. In sending arms to Latin America the United States has been guided exclusively by considerations of hemispheric security. Since Argentina refused to lend her aid to the support of the security of the New World the United States could not furnish arms to Argentina under the Lend-Lease Act. He closed by declaring the United States has viewed with deep regret the course followed by the Argentine Government in so far as hemispheric defense was concerned.

The Argentine newspapers were critical both of Argentina's foreign policy and Storni's diplomatic gaucherie. On Sept. 10, Admiral Storni resigned from the cabinet and he was followed by the Under Secretary in charge of American affairs. On Oct. 14 President Roosevelt sent a strong message of protest to Argentina against the closing of the Jewish press. Early in November all financial transactions with Argentina, in excess of $25,000, taking place in the United States had to receive official approval. Since the United States permitted no government credits to go to Argentina and had tightened up on the black list, it seemed apparent that Argentina would find her pro-Axis policy increasingly expensive.

RELATIONS WITH BOLIVIA

The year opened with a repercussion of the labor problem in the tin mines of Bolivia. The wages of the workers were very low, 50 to 75 cents a day for skilled labor and 20 to 30 cents for unskilled. As a result of a strike at the Patiño mines, President Peñaranda placed the country in a state of siege and declared martial law in the region. In as much as the United States was taking a good share of Bolivian tin and paying a price designed to aid the workers' standard of living, the situation aroused the interest of various agencies working in the Latin American field. Ernesto Galarza, Chief of the Division of Labor and Social Information of the Pan American Union, sent a letter to Under Secretary of State Sumner Welles charging that United States Ambassador Pierre de Boal had brought pressure upon the Bolivian Government to prevent the passage of a new labor code to aid Bolivian workers. Mr. Welles declared that the charge was without foundation; Ambassador de Boal had merely raised the question as to the effect of the proposed code upon the cost of strategic materials to the United States. Mr. Galarza offered his resignation without in any way retracting his statement but his resignation was never accepted.

At the close of the year Bolivian policy became an enigma to her neighbors and to the United States. On Dec. 6 the Bolivian Congress declared war on the Axis which state had already existed by presidential decree since the preceding April. On Dec. 20 a revolution broke out in Bolivia which forced the resignation of President Peñaranda. Instead of according immediate recognition to the new government, Secretary Hull declared that considerations of the security of the Hemisphere and of the war effort of the United Nations must have first importance and it was therefore necessary to consider whether unfriendly influences played any part in the change of status. Although the new government named Enrique de Tozada assistant to Mr. Rockefeller. Coordinator of Inter-American Affairs, as its representative in Washington, no recognition was accorded before the year ended. An offer of the new government, headed by Major Villarroel, to make agreements regarding petroleum, quinine, and tin was given no public reply by the Department of State.

FOREIGN SERVICE OF THE UNITED STATES

By Monnett B. Davis

Chief, Division of Foreign Service Administration, State Department

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ADMINISTRATIVE REGULATIONS

The administrative regulations issued in pursuance of the Foreign Service Act of Feb. 23, 1931, as amended, are to be found in Executive Order No. 8696 of April 18, 1940. These regulations implement the act by providing, among other things, for a Board of Foreign Service Personnel, a Board of Examiners and a Board of Foreign Service Officers' Training School.

BOARD OF FOREIGN SERVICE PERSONNEL

The duties of this Board are to examine into the character, ability, efficiency, experience, and general availability of all members of the Foreign Service with a view to promotions, transfers, and separations; to consider controversies or delinquencies among the Service personnel, and to recommend for promotion to the grade of minister those officers who have shown special capacity. The Board is composed of not more than three Assistant Secretaries of State, an officer of the Department of Commerce, and an officer of the Department of Agriculture. One of the Assistant Secretaries of State is the Assistant Secretary who has supervision over the Division of Foreign Service Personnel and is chairman of the Board. The members of the Departments of Commerce and Agriculture sit only when nominations and assignments of Commercial and Agricultural Attachés, the selection or assignment of Foreign Service officers for specialized training in commercial or agricultural work, or matters of interest to those Departments, are under consideration. The Chief of the Division of Foreign Service Personnel and one other member of the Division may attend the meetings of the Board, but are not entitled to vote in its proceedings.

BOARD OF EXAMINERS

The duties of the Board are to hold examinations of applicants for admission to the Foreign Service. The examinations, both written and oral, are open only to Americans of good standing between the ages of 21 and 35, specially designated by the President for examination, who have been citizens of the United States for at least 15 years, who are physically, mentally, and temperamentally qualified for the proper performance of the duties of the Foreign Service, and who are not married to

FOREIGN SERVICE OF THE UNITED STATES

DIPLOMATIC PERSONNEL

Ambassadors

	Accredited by United States		Accredited to United States	
Argentina	Norman Armour	1939	Señor Don Rodolfo García Arias, Chargé d'Affaires ad interim	1943
Belgium	Anthony J. Drexel Biddle, Jr.[1]	1941	Count Robert van der Straten Ponthoz	1935
Bolivia	Pierre de L. Boal	1942	Señor Dr. Don Luis Fernando Guachalla	1942
Brazil	Jefferson Caffery	1937	Mr. Fernando Lobo, Chargé d'Affaires ad interim	1943
Canada	Ray Atherton[2]	1943	The Honorable Leighton McCarthy	1943
Chile	Claude G. Bowers	1939	Señor Don Rodolfo Michels	1941
China	Clarence E. Gauss	1941	Dr. Wei Lao-Ming	1942
Colombia	Arthur Bliss Lane	1942	Señor Dr. Don Gabriel Turbay	1943
Costa Rica	Fay A. Des Portes	1943	Señor Don Carlos Manuel Escalante	1943
Cuba	Spruille Braden	1941	Señor Dr. Aurelio F. Concheso	1941
Czecho-Slovakia	Anthony J. Drexel Biddle, Jr.	1943	Mr. Vladimír Hurban	1943
Dominican Republic	Avra M. Warren	1943	Señor Don Anselmo Capello	1943
Ecuador	Robert M. Scotten	1943	Señor Capitán Colón Eloy Alfaro	1936
El Salvador	Walter Thurston	1943	Señor Dr. Don Hector David Castro	1943
Great Britain	John G. Winant	1941	The Right Honorable the Viscount Halifax, K. G.	1941
Greece	Lincoln MacVeagh[3]	1943	Mr. Cimon P. Diamantopoulos	1942
Guatemala	Boaz Long	1943	Señor Dr. Don Adrian Recinos	1943
Haiti	John Campbell White	1943	Mr. André Liautaud	1943
Honduras	John D. Erwin	1943	Señor Dr. Don Julian R. Caceres	1943
Iran	Louis G. Dreyfus, Jr .	1939	Mr. Mohammed Shayesteh	1940
Mexico	George S. Messersmith	1941	Señor Dr. Don Francisco Castillo Nájera	1935
Netherlands	Anthony J. Drexel Biddle, Jr.[1]	1942	Dr. A. Loudon	1942
Nicaragua	James B. Stewart	1943	Señor Dr. Don Guillermo Sevilla Sacasa	1943
Norway	Anthony J. Drexel Biddle, Jr.	1942	Mr. Wilhelm Munthe de Morgenstierne	1942
Panama	John J. Muccio, Chargé d'Affaires ad interim	1943	Señor Don Enrique A. Jiménez	1943
Paraguay	Wesley Frost	1942	Señor Dr. Don Celso R. Velázquez	1942
Peru	Jefferson Patterson, Chargé d'Affaires ad interim	1943	Señor Don Manuel de Freyre y Santander	1930
Poland	Anthony J. Drexel Biddle, Jr.[1]	1937	Mr. Jan Ciechanowski	1941
Spain	Carlton J. H. Hayes	1942	Señor Don Juan Francisco de Cárdenas	1939
Turkey	Laurence A. Steinhardt	1942	Mr. Mehmet Munir Ertegun	1934
Union of Soviet Socialist Republics	W. Averell Harriman	1943	Mr. Vladimir I. Bazykin, Chargé d'Affaires ad interim	1943
Uruguay	William Dawson	1941	Dr. Juan Carlos Blanco	1941
Venezuela	Frank P. Corrigan	1939	Señor Dr. Don Diógenes Escalante	1939
Yugoslavia	Lincoln MacVeagh[3]	1943	Mr. Constantin Fotitch	1942

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[1] Accredited also to the Governments of Poland, Belgium, Czecho-Slovakia, Norway and the Netherlands, established in England.

[2] Accredited also as minister for the Government of Luxembourg established in Canada and as minister to Denmark.

[3] Government of this country now established at Cairo, Egypt.

aliens. American clerks who have rendered satisfactory service in the Foreign Service for a period of five years immediately preceding the submission of their application for appointment as a Foreign Service officer may be exempted by the Board from written examinations and may be granted certain exceptions concerning age limitations. The Board

II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

DIPLOMATIC PERSONNEL

MINISTERS

	Accredited by United States		Accredited to United States	
Afghanistan	Cornelius Van H. Engert	1942	Mr. Abdol Hosayn Aziz	1943
Australia	Nelson T. Johnson	1941	Sir Owen Dixon	1942
Denmark	Ray Atherton[1]		Mr. Henrik de Kauffmann	1939
Egypt	Alexander C. Kirk	1941	Mahmoud Hassan Bey	1938
Estonia[3]	———		Mr. Johannes Kaiv, Acting Consul General of Estonia in New York City in charge of Legation	1939
Ethiopia	John K. Caldwell	1943	Blatta Ephrem Tewelde Medhen	1943
Finland	H. F. Arthur Schoenfeld	1937	Mr. T. O. Vahervuori, Chargé d'Affaires ad interim	1943
Iceland	Leland B. Morris	1942	Mr. Thor Thors	1941
Iraq	Loy W. Henderson	1943	Mr. Ali Jawdat	1942
Ireland	David Gray	1940	Mr. Robert Brennan	1938
Latvia[3]	———		Dr. Alfred Bilmanis	1935
Lebanon	George Wadsworth[4] (Diplomatic agent and Consul General)	1942	———	
Liberia	Lester A. Walton	1935	———	
Lithuania[3]	———		Mr. Povilas Zadeikis	1935
Luxembourg	Ray Atherton[1]	1943	Mr. Hugues Le Gallais	1940
New Zealand	William C. Burdett	1943	Mr. G. S. Cox, Chargé d'Affaires ad interim	1943
Portugal	R. Henry Norweb	1943	Dr. João Antonio de Bianchi	1933
Saudi Arabia	James S. Moose, Jr. (Minister resident and consul)	1943	———	
Sweden	Herschel V. Johnson	1941	Mr. W. Bostrom	1926
Switzerland	Leland Harrison	1937	Mr. Charles Bruggmann	1939
Syria	George Wadsworth[2] (Diplomatic Agent and Consul General)	1942	———	
Thailand[3]	———		Mom Rajawongse Seni Pramoj	1940
Union of South Africa	Edward M. Groth, Chargé d'Affaires ad interim	1943	Mr. J. R. Jordaan, Chargé d'Affaires ad interim	1943

[1] Accredited as ambassador to Canada, also as minister for the Government of Luxembourg established in Canada and as minister to Denmark.
[2] Accredited also to Lebanon; resident at Beirut.
[3] Closed.
[4] Accredited also to Syria; resident at Beirut.

is composed of three Assistant Secretaries of State, an officer of the Department of Commerce, an officer of the Department of Agriculture, the Chief of the Division of Foreign Service Personnel of the Department of State, and the Chief Examiner of the Civil Service Commission.

FOREIGN SERVICE OFFICERS' TRAINING SCHOOL

The school is maintained in the Department of State for the instruction of new appointees to the Foreign Service, and is under the direction of the Board of Foreign Service Officers' Training School. The duties of the Board are to act in all matters concerning the functions of the school, with the approval of the Secretary of State; to select the director of the School from among the officers of the Foreign Service with the approval of the Secretary of State, and in its discretion to select other instructors from among the qualified officers of the Department of State, the Foreign Service, the executive departments of the Government, and other available sources. The Board is composed of the members of the Board of Foreign Service Personnel, the Chief of the Division of Foreign Service Personnel, and the Director of the School.

FOREIGN SERVICE EXAMINATION

Because of present war conditions it was found impracticable to hold a

CLASSIFICATION, FOREIGN SERVICE 1943

	Salary	Number
Head of Missions		
Ambassadors	$17,500	16
Ambassadors	10,000	10
Ambassadors	9,000	1
Ministers	10,000	14
Ministers	9,000	3
Minister Resident and Consul General (Jidda)	FSO*	1
Diplomatic Agent and Consul General (Beirut and Damascus)	FSO*	1
		46
Foreign Service Officers		
Class 1	$9,000–$10,000	44
Class 2	8,000– 8,900	54
Class 3	7,000– 7,900	76
Class 4	6,000– 6,900	83
Class 5	5,000– 5,900	84
Class 6	4,500– 4,900	120
Class 7	4,000– 4,400	155
Class 8	3,500– 3,900	92
Unclassified (A)	$3,000	35
Unclassified (B)	2,750	56
Unclassified (C)	2,500	27
		826
Clerks—Senior		
Class 1	$4,000	8
Class 2	3,750	13
Class 3	3,500	33
Class 4	3,250	43
Class 5	3,000	58
Clerks—Junior		
Class 1	2,750	72
Class 2	2,500	89
Class 3..All under	2,500	1,578
		1,894

* Foreign Service Officer.

written examination during 1943 for appointments to the American Foreign Service. The Board of Examiners for the Foreign Service has not set the date of a later examination.

CHANGES IN DIPLOMATIC AND CONSULAR PERSONNEL

During 1943 the following consular offices were closed: St. Pierre-Miquelon, a French possession; Sao Vicente in the Cape Verde Islands; St. Lucia in the British West Indies; Matanzas and Caibarien in Cuba; Buenaventura, Cucuta, and Riohacha in Colombia; Asmara in Eritrea; Salina Cruz in Mexico; and Tocopilla in Chile.

In 1943 a new legation was established at Addis Ababa, Ethiopia. Representation to the governments of Greece and Yugoslavia was established at Cairo, Egypt, Lincoln MacVeagh having been appointed Ambassador near those governments. Anthony J. Drexel Biddle, Jr. served in this capacity prior to Dec. 1, 1943, when these governments were established in England. Ten new consular offices have been established in the Western Hemisphere, seven in Africa, two in the Far East, and one in northern Europe.

The Foreign Service Auxiliary, which was added to the regular Foreign Service in 1942 in order to enable it to discharge its responsibilities in those phases of the war effort involving economic warfare, and political, economic and cultural cooperation in the Western Hemisphere and among the United Nations, consisted as of Dec. 31, 1943, of 282 officers, 609 clerks, and miscellaneous employees.

During 1943 there were six deaths, 17 retirements, and 12 resignations of Foreign Service officers. On Dec. 31, 1943, the Service comprised 826 career officers.

PROMOTIONS FROM THE RANKS

Of a total of 28 ambassadors and 16 ministers, 21 of the former and 15 of the latter have previously served in the ranks of the Foreign Service or of the Department of State.

II. INTERNATIONAL AFFAIRS AFFECTING THE UNITED STATES

THE LEAGUE OF NATIONS AND ASSOCIATED AGENCIES

By Arthur Sweetser
Member of the League Secretariat

INTERNATIONAL ORGANIZATION

The epoch-making events of 1943, culminating in the Moscow Declaration and the Senate Resolution for establishing "at the earliest practicable date a general international organization," effected a profound change in America's relations to the three international agencies created after the First World War—League of Nations, Permanent Court of International Justice, and International Labor Organization. The crash of isolationism at Pearl Harbor, the promulgation of the United Nations immediately after, the successive conferences at Moscow, Cairo, and Teheran, and finally the overwhelming votes in both House and Senate in favor of organized international cooperation almost completely reversed the thinking and policy which had prevailed since 1919 and pledged the country to active cooperation, in one form or another, in organized efforts to prevent war and aggression and advance the welfare of mankind. Indeed, as the war's scope and issues became more clearly understood and the problems of post-war reconstruction and organization began to take form, a greater change took place in American thinking and action than in the near quarter-century since the Senate failed to ratify the Covenant of the League of Nations.

This change found expression in three ways: first, the wide-spread acceptance of the philosophy of organized international cooperation; second, the evolution of a better understanding of and collaboration with such pre-war agencies as continued to function; and third, intense discussion of the kind and type of agency to be created after the war. The full blue-print could obviously not be drawn amidst the worries and vicissitudes of a world-wide war, but the general principles and some of the more immediate or simpler details were set in place and intense study undertaken as regards the remainder.

REVERSAL OF 1919

The evolution in American thinking had been steady and continuous since Pearl Harbor tragically demonstrated the fatuity of isolationism. Every poll or consultation of opinion taken during that time showed a distinct progression towards some kind of organized international cooperation and a sharp revision of opinion regarding the League of Nations. There was a temptation in some quarters, to be sure, to succumb to the easy and somewhat dangerous temptation to load off onto the League the responsibility for not preventing the Second World War, but there was a still wider tendency to say that, had the United States entered the League, the present war would not have come about. Whatever the next settlement may bring, it seemed likely that it would include a mechanism similar to, but much stronger than, the League, and that League experience and organization would find their place, in one way or another, within it.

NATIONWIDE DISCUSSION

The questions involved in this problem were second in public interest only to the war itself. They were agitated in countless ways throughout the country, in meetings, speeches, interviews, and publications, with a frequency and an intensity unequalled since the League to Enforce Peace days towards the end of the First World War. The Commission to Study the Organization of Peace, perhaps the largest general agency in this field, urged in its

Fourth Report on Nov. 20 that "the international organization should build upon the foundations already laid in the League of Nations and its allied institutions, making use of whatever may be found serviceable in their experience and organization." Another group of Americans, who had been officially associated with the League, after a six-months study of the contribution which the League could make to the next settlement, urged in a conference at Princeton on Dec. 10 "full recognition and support of League agencies continuing to function during the war, including particularly those on American soil," adherence to the Statute of the Permanent Court, and early consideration by the authorities of the League and of the United Nations of "the necessity of coordinating the international agencies developed after the First World War with those developing during the present war for the purpose of assuring continuity and of benefiting from the experience of nearly a century of international work."

The subject set for debate in the high schools of the country was: "RESOLVED: that the United States should join in reconstituting the League of Nations." Finally, as an instance of individual effort, might be mentioned the action of David Lawrence, editor and columnist who, in an editorial in the *United States News* and in a page advertisement in 26 newspapers over the country, pointed out that the Covenant of the League is built into the existing Treaty structure of 44 nations and urged that the United States ratify and implement it.

BIPARTISAN RAPPROCHEMENT

All this fermentation inevitably penetrated the political parties and led to efforts to take the issue out of partisan politics. The policy of the Administration in office found expression in the various actions, declarations, and conferences which followed in rapid succession throughout the year from the promulgation of the United Nations on New Year's day through the various conferences at Quebec, Moscow, Cairo, and Teheran to President Roosevelt's message on Christmas Day. The policy of the opposition party tended also to crystallize during the year, the most important statement coming on Sept. 17 from the Conference at Mackinac Island of the Republican Postwar Advisory Council which called for "responsible participation by the United States in a postwar organization among sovereign nations to prevent military aggression and to obtain permanent peace with organized justice in the world."

HOUSE AND SENATE ACTION

Repercussions were also felt in both Houses of Congress. On Sept. 21, the House of Representatives, after full hearings and discussion, passed by the overwhelming vote of 360 to 29 the Fulbright Resolution calling for "the creation of appropriate international machinery with power adequate to establish and maintain a just and lasting peace among the nations of the world, and as favoring participation by the United States therein through its constitutional processes."

This Resolution was presented to the Senate, whose Foreign Relations Committee eventually reported a slightly different text. While this text was under debate as too vague, there came the announcement of the Moscow Declaration that the United States, Great Britain, Soviet Russia and China recognize "the necessity of establishing at the earliest practicable date a general international organization, based on the principle of the sovereign equality of all peace-loving States, and open to membership by all such States, large and small, for the maintenance of international peace and security."

This Declaration was received with such acclaim that the part above quoted was added to the Senate draft, and on Nov. 5 the complete resolution was passed by the overwhelming vote of 85 to 5. Thus the Executive and the two Houses of Congress seemed united on a broad declaration of future American policy of international cooperation and organization which, in effect, was fundamentally different from that pursued from the time that the Senate rejected the League of Nations Covenant on Nov. 19, 1919.

The Senate debate previous to this action was both interesting for the past and instructive for the future. It was, indeed, a pallid reminder of the long treaty fight in 1919, a repetition or a continuation, as Senator Pepper put it, which Senator Langer said caused him to sit up "night after night reading the 1919 debate." Many of the same arguments were heard in 1943 as in 1919 but with far less force and conviction.

Most frequently debated was the degree of responsibility of the 1919 action for the present war. Senator Caraway felt "there is a growing number who believe that had his (President Wilson's) plan of international cooperation for peace been given a trial, the present terrible conflict would have been avoided." Senator McKellar believed that "if the United States had entered into that Covenant, the world would not now be at war." Senator Ball quoted a CIO Resolution that "the refusal of the United States Senate to cooperate in the League of Nations helped pave the way for the present war." Senator Hill said that the United States had failed to heed the warnings of 1919 and "for nearly two years now has been engaged in another war." Senator Thomas stressed the harm done by nullifying Senate action. Senator Andrews felt the League had been doomed to failure "because the leading democracy on earth refused to throw its great power into the balances."

Exactly contrary views were expressed by others. Senator Wheeler felt that nothing could be "farther from the truth" than these allegations. Senator Nye called the action of the Allied Governments "one hundred times a greater factor in making for another war." Senator Shipstead also held the Allies responsible, attacking the World Court as a political body and the Anglo-French policy in Manchuria. Senator Lodge denied the comparability of the present period to the earlier one as well as the charge that "it was the Senate alone which prevented American entrance into the League." Senator Brooks, however, did not know whether "we could have prevented this war by joining the League."

More unexpected were suggestions that the Senate ratify the Covenant even now. Senator Connally expressed pleasure at Senator Taft's press statement suggesting the "utilization of the League of Nations." Senator Guffey also welcomed this statement "favoring enactment of the Covenant of the League by this body" and said he would "like the opportunity to vote for the League Covenant as it was originally offered for ratification in this body in 1919." Senator Taft explained that he "was in favor of joining the League in 1920 and had been in favor of doing so since," believing that "the only practical line on which we can succeed is one based substantially on the same principles as represented by the League of Nations of 1920." Senator Andrews felt that "as the only great democracy on earth that still remains outside the Covenant, all we have to do is sign the Covenant."

LEAGUE GAINS

Meanwhile, the League itself began to regain ground both in its own work and in relation to other agencies. The long downward slide which began in the early thirties with the Manchurian crisis in the Far East and the advent of Hitler in Europe and which accelerated into a headlong plunge in 1939 with the outbreak of the Second World War was arrested and the first steps taken on the long road back. Most of this change, by a twist of history, took place on the American side of the Atlantic where League interests had largely taken refuge following the shutting off of Switzerland.

UNITED NATIONS COLLABORATION

Most novel of these developments was the relationship established during the year with the two developing United Nations agencies. An effort had been made at the first general United Nations conference—that at Hot Springs on Food and Agriculture—to invite the League and the Labor Office to send observers, but as British Foreign Minister Anthony Eden stated in the House of Commons, on May 4: "The position of the United States Government and of certain other governments participating in the Conference is not identical in regard to the International Labor Organization and the Economic Section of the League of Nations." Consequently the two agencies were invited at the moment merely to send documentation; subsequently, however, they were asked to participate in the committees which grew out of the Conference and which were established in Washington to draft the constitution of a permanent agency.

UNRRA

A speedier course was pursued by the Council of the United Nations Relief and Rehabilitation Administration at its first meeting at Atlantic City in November. At the outset, that body decided there were certain intergovernmental agencies working in related fields "with accumulation of knowledge, data, and experience, and staffed with qualified technicians" which could contribute effectively to its work, and accordingly, invited both the technical services of the League and the Labor Office to send representatives to the Conference. The League's Economic and Financial Mission at Princeton was represented by A. Loveday, its director, the Health Section by Dr. Raymond Gautier, acting director, the Labor Office by E. J. Phelan, also acting director. These representatives were warmly thanked by Director-General Herbert H. Lehman for their cooperation during the preparatory six months, were frequently asked to contribute to the discussions, and, in the final resolution of the Conference, were considered as automatically invited to all future sessions of the Council, European and Far Eastern Committees, and standing technical committees, with a reciprocal authorization to the Director-General to be represented in their meetings if desired. Thus was effected a complete coordination between certain agencies of international cooperation growing out of the First World War and the first developed in the Second World War.

The first consequence of this was a joint session at Princeton immediately after the Atlantic City Conference of the Economic and Financial Committees of the League, under the chairmanship, as it happened, of an American, Henry F. Grady, former Assistant Secretary of State and just designated as Deputy Vice-President of the Allied Control Committees for Italy. The Committee decided that "the fullest possible help should be offered by the League's services to UNRRA, the Interim Commission on Food and Agriculture, and such other intergovernmental agencies as may be created." It also adopted a program looking to post-war prosperity and reconstruction through the fullest employment of economic resources, rising living standards, prevention of depression, and appropriate monetary and investment policies.

ECONOMIC RECOVERY

The Economic and Financial Mission at Princeton also continued its regular work, issuing a series of studies which had been under way since the group's arrival in Princeton in 1940 and which aimed to make available for the next settlement the accumulated experience of the past 20 years. Most notable, perhaps, was the volume *The Transition from War to Peace Economy* which developed from years of study by the Committee on Economic Depressions, of which W. W. Riefler, Minister attached to the Embassy in London, was the American member. Towards this work of scientific economic research, the Rockefeller Foundation renewed for 1944 its grant of $50,000.

DOUBLE TAXATION

Another technical activity of the League which continued active during 1943 and which was of particular American interest, was that concerning the difficult international problem of double taxation and fiscal evasion. The Fiscal Committee held in July, through the hospitality of the Mexican Government, its second session of experts from the Americas, working out three model conventions on bi-lateral tax problems. The American member was Mitchell B. Carroll, for years a leader in this movement and representative of the Financial Committee at the Princeton meeting. Negotiations on the same subject were under way between the United States and Canada, with Eldon P. King, former member of the League's Committee, on the American Delegation.

ANTI-DRUG WORK AT WASHINGTON

The League's anti-drug work, first Geneva activity to receive American cooperation from the League's earliest days, also continued to be of special interest to the United States. Much of the small staff administering this work remained for the third year in Washington where, with the consent of the Government, it had been established at the moment Germany was threatening to invade Switzerland. Meetings of the Permanent Central Opium Board and the Drug Supervisory Body were again held in London in October with Herbert L. May attending for the twelfth year as the American member. The most notable event of the year was the announcement by the State Department on Nov. 10 of the attainment of one objective sought through years of discussion and effort in Geneva and embodied in a decision announced by the British and Netherlands governments "to prohibit the use of opium for smoking and to abolish opium monopolies in their territories when those territories are freed from Japanese occupation."

CULTURAL MATTERS

American cooperation was also forthcoming in another branch of League activity, namely, that of intellectual cooperation. A meeting was held in Washington in October, through the hospitality of the Carnegie Endowment, of the Inter-American Committee on Intellectual Cooperation composed of the national committees in the Americas which had been in liaison with the League's central agencies at Geneva and Paris. It was decided to continue this work and to admit to it non-American collaboration in an effort to establish a kind of trusteeship to safeguard as much as possible of the previous work until it should be possible to make permanent arrangements for international cultural matters. Questions of the development of cultural relations, freedom of thought, education, communications, and intellectual interchange were discussed and a provisional center was established at Havana, on invitation of the Cuban Government. The Americans present were Dr. James T. Shotwell, of the Endowment and member of the League's Central Committee at Geneva, and Dr. Waldo G. Leland, Secretary of the American Council of Learned Societies replacing Malcolm W. Davis.

LEAGUE DIRECTION

At the northern end of the continent American citizens also took part in the meetings at Montreal in June and July of the League's Supervisory Commission which had been given emergency powers by the last Assembly in 1939 to act as the central directing agency for League affairs. By coincidence, the two autonomous agencies associated with the League, the Permanent Court of International Justice and the International Labour Organization, were both represented by American citizens, the former by Manley O. Hudson, Judge of the Court for years, and the latter by Carter Goodrich, chairman of the Governing Body. In both cases budgetary and other arrangements were made for the coming year.

LEAGUE MANDATES

Another League subject which attracted considerable American interest during 1943 was that of the mandated areas. Much concern had developed over the Pacific Islands which had been allocated to Japan after the last war by the Principal Allied and Associated Powers, of which the United States had been one, and on Sept. 17 President Roosevelt had informed Congress that when Japan surrenders, the United Nations will never again let her have authority over them. Similarly, on the other side of the world, the United States on Nov. 26 noted "with approval" the action of the French Committee of National Liberation as regards Lebanon, whose independence as well as Syria's, was, in the State Department's announcement, "contemplated in the terms of the A mandate over these states entrusted to France by the League of Nations."

THE PERMANENT COURT

The Permanent Court of International Justice, membership in which every President and Secretary of State had unsuccessfully urged upon the Senate since its inception in 1922, was brought back again into the American picture by Secretary of State Cordell Hull who, in his national broadcast of Sept. 12, mentioned as among the problems which are receiving attention the question as to "the extent to which the existing court of international justice may or may not need to be remodeled." Meanwhile, Judge Manley O. Hudson continued to serve as one of the Judges of the Court, representing its interests, as stated above, at the Montreal session of the League's Supervisory Commission.

THE INTERNATIONAL LABOR ORGANIZATION

By Ethel M. Johnson
International Labor Office

AMERICAN CONTACTS AND STUDIES

From its Working Center in Montreal, established for the duration of the war, the International Labor Organization—a tripartite association of nations of which the United States is a member—has directed its activities towards carrying out the social mandate for post-war reconstruction assigned by the International Labor Conference held in the United States in 1941. Its studies and research, its publications, committee work and meetings have all contributed to that end, as has much of the technical aid it has provided to its member states.

In addition to the studies of current wartime labor problems and the social problems of reconstruction, the International Labor Organization has continued to furnish on request expert assistance to the governments of the member countries. This assistance is usually in the form of advice in connection with such matters as the drafting of social insurance legislation, the formulation of labor codes, the standardization of labor statistics, the development of a labor supply policy or of a reconstruction program. Since the temporary transfer on account of the war of ILO headquarters from Europe to the Western Hemisphere, a large part of the requests of this nature have come from American countries, including the United States. In some instances the assistance requested is carried out in cooperation with agencies of the United States Government, thus contributing to the Good Neighbor policy.

ASSISTANCE TO VARIOUS AMERICAN GOVERNMENTS

At the request of the governments of the United States and Bolivia, an expert from the staff of the International Labor Office was assigned as consultant to the Joint Bolivian-United States Commission which investigated labor conditions in the Bolivian tin mines in the winter of 1943. The findings of the Commission were subsequently published by the International Labor Office under the title, *Labor Problems in Bolivia*. Other assistance to American countries during the year is represented by consultations with officials of the United States Commission on Inter-American Affairs, the National Resources Planning Board, and the Social Security Board; and the preparation of a brief on labor relations at the request of the Canadian Government. The ILO also sent an official to Mexico City to assist the Mexican Government in implementing its new social security legislation. At the invitation of the Venezuelan Government an official was sent to Caracas to advise in connection with drafting measures to apply the social insurance legislation of that country. Advice on social insurance matters was given to government officials of Costa Rica, Chile, Ecuador and Paraguay.

WORLD CONTACTS

Through its staff of experts from many different lands, its tri-partite composition giving access to labor and management groups as well as government agencies, and through its world-wide network of branch offices and national correspondents, the International Labor Organization, in spite of the war, has been able to maintain contacts with labor and social welfare developments throughout the world. The data so obtained have been made available to the agencies of the United Nations, the members of which are also members of the International Labor Organization, and to the government agencies of individual member countries, in particular to the governments of the United States and Canada.

Although the International Labor Organization still maintains its office in Geneva, Switzerland, only a skeleton staff is retained there for the moment. However, it has been able to keep in touch with European countries and to secure the documentation from those countries. The major part of the ILO building on the shores of Lac Leman, which was constructed in 1926 and contains some 500 rooms, has this year been put at the disposal of the International Red Cross for free use in connection with their work for prisoners of war. The International Labor Organization had earlier aided the International Red Cross through the loan of furniture and machines which are not at present attainable in Europe.

The results of the ILO studies in nutrition were submitted to the United Nations Conference on Food and Agriculture held at Hot Springs, Va. in the early part of the year; and later to the Interim Commission which was established following that Conference. Technical assistance was given to the Office of Foreign Relief and Rehabilitation. The International Labor Organization was invited to participate through consultants at the initial meeting of United Nations Relief and Rehabilitation Administration held in November at Atlantic City. Edward J. Phelan, acting director of the International Labor Office, and Oswald Stein, assistant director, attended in this capacity.

RATIFICATION OF ILC CONVENTIONS

No new international labor conventions have been adopted by the International Labor Conference since 1939. Several ratifications of existing conventions have, however, been registered during the war. In 1943, the British Government ratified the two 1939 conventions concerning regulation of written contracts of employment of indigenous workers and the convention providing for abolition of penal sanctions for breaches of contract by such workers. The provisions of these two conventions will apply in most of the British colonies, protectorates, and territories under British mandate.

During the year, the Belgian Government ratified the convention on forced labor which was adopted in 1930. This ratification covers the Belgian Congo and the mandated territory of Ruanda-Urundi. The Chilean Senate approved the ratification of the 1935 convention prohibiting the employment of women in underground mining.

The total number of ratifications of international labor conventions is now 887, registered by some 50 different countries. Several other ratifications are in prospect. Of the 67 draft international labor conventions that have been adopted by the International Labor Conference between 1919 when the International Labor Organization was established and 1939 when the most recent Convention was adopted, 52 are now in force.

RESEARCH AND PUBLICATIONS

The research and publication program of the International Labor Organization during the year was planned to meet both its wartime and post-war responsibilities. *The International Labor Review* continues to be presented monthly in English, French, and Spanish. *The Industrial Safety Survey; The Legislative Series,* which reproduces the texts of the most important labor legislation throughout the world, and *The Co-operative Bulletin* are issued regularly, as is the *Year Book of Labor Statistics.* The record of the proceedings of the Twelfth Session of the Joint Maritime Commission was published during the year under the title of *Merchant Seamen and the War.* Among the studies of especial interest published during 1943 are the following: *The Displacement of Population in Europe, The International Standardization of Labor Statistics, The Effects on Established Industrial Areas of Industrial Developments Elsewhere, Nutrition in Industry, The Health of Children in Occupied Europe,* and *Manpower Mobilization for Peace.*

MEETINGS, COMMITTEES, AND CONFERENCES

The International Labor Organization has gone on with its regular committee work and has arranged for various meetings during the year. The series of Canadian-United States tripartite meetings on the policies of war-time labor supply, which were instituted in 1941 to demonstrate the value of the tripartite form of cooperation in dealing with problems common to labor and industry, has continued. The seventh meeting of the committee, which meets alternately in the United States and Canada, was held in New York on Feb. 13-14, 1943 with official representatives from government, management, and labor in both countries in attendance.

An informal consultation on new trends in social security policy was held in Montreal July 9-12 with social security experts from a number of American countries and Sir William Beveridge from Great Britain. Ian A. McKenzie, the Canadian Minister of Pensions and National Health, presided.

The Committee on Accidents Prevention continued its work on a model factory code and its studies of safety in dock work. In addition to the code for factories, the International Labor Organization is preparing model safety codes for civil engineering and for electrical equipment installations.

In connection with the work on post-war reconstruction, the Director of the International Labor Office went to London in May for consultations with members and officials of the British Government on the future program for the International Labor Organization and its participation in plans for post-war reconstruction.

The 91st meeting of the Governing Body of the International Labor Organization was held in London on Dec. 16, 1943 to make plans for the next general session of the International Labor Conference. It was agreed to hold the Conference in the United States beginning April 20, 1944. The agenda for the Conference comprises the following: (1) Future policy, program and status of the International Labor Organization; (2) Recommendations to the United Nations for present and post-war social policy; (3) The organization of employment in the transition from war to peace; (4) Social security: principles, and problems arising out of the war; (5) minimum standards of social policy in dependent territories; (6) Reports on the application of Conventions; (7) the Director's Report.

Inclusion of the second item on the agenda was on the recommendation of representatives from the United Nations who are members of the governing body of the International Labor Organization. It is expected that this Conference will define the steps to be taken by the United Nations to give effect to the social principles outlined in the Atlantic Charter. This Conference of the International Labor Organization in the field of labor problems, like the United Nations Conferences on Food and Agriculture and Relief and Rehabilitation Administration will represent one of the international functional meetings on post-war action. It will take the place of a separate conference of the United Nations in this field.

WAR CHRONOLOGY, 1943

(BY AREAS)

MEDITERRANEAN AREA

JANUARY

1—Three German transport planes shot down off Tunisian coast.
2—Docks at Sousse bombed; 28 enemy aircraft destroyed over La Goulette.
5—Lieut. Gen. Mark W. Clark takes command of American Fifth Army; Sfax shipping bombed.
7—Gabes airfield and barracks bombed; Tunis docks strafed; enemy troops attacked at Kairouan.
8—Flying Fortresses bombed Bizerte and Ferryville; Tunis raided by aircraft; bombs dropped on Gabes, Kairouan, and road between Sousse and Sfax.
13—Air patrols over area between Bon Arada and Goubellat; Sousse and Sfax bridges strafed.
15—Allied bombers attack Sousse and Sfax and targets at Mahares; 11 American P-39 fighters forced down by storm in Portugal and crews were interned. Casablanca conference begins.
19—Infantry and armored units in battle in area of Bou Arada Goubellat; railway yards at Tunis bombed.
22—Allied aircraft attack Pont du Fahs, Gabes, and Tripolitanian frontier.
23—Bizerte and Tunis airdromes bombed.
25—American troops raid Maknassay. Casablanca conference ends.
26—Attacks pushed in Ousseltia Valley.
27—Allied bombers strike at Bizerte.
29—U. S. heavy bombers pound port of Sfax.
30—President Roosevelt visited Trinidad on way home from Casablanca.
31—Ferryville docks and targets north of Gabes hammered.

FEBRUARY

1—American infantry and tanks begin twin drive on Maknassay, attacking Faid Pass.
2—Americans captured Sened in Tunisia; allied attacks on Faid Pass unsuccessful.
6—Separate theater for North Africa operations established under command of Lieut. General Dwight D. Eisenhower.
8—Allied flyers strike at airdromes in Sardinia; railroads in Sicily; Naples harbor.
9—Sousse docks and Gabes airdrome bombed.
10—Trapani docks in Sicily attacked; Kairouan airfield bombed.

11—Allied unity of command set up under Eisenhower.
13—El Aouina airfield at Tunis and Bizerte docks bombed.
15—Enemy attacked heavily in area west of Faid; light bombers raid Maknassay and Sened; U. S. forces withdraw from Sidi bou Zid.
16—Small enemy parties enter Gafsa; Allies bomb Kairouan, Bizerte, and Palermo. Americans regain ground lost on preceding day.
17—Armored forces battle near Sbeitla; Rommel's tanks drive Americans from vicinity of Sidi bou Zid and force American 12th Air Force to evacuate airfields at Sbeitla and Thélepte.
18—Enemy elements push Americans out of Feriana and Kasserine; Allied aircraft attack Sardinian airfields.
19—Enemy attack northwest of Kasserine repelled; enemy tanks and self-propelled guns destroyed near Shiba; U. S. tanks abandon Ousseltia Valley positions.
21—Rommel captures pass northwest of Kasserine.
22—Gafsa railroad yards bombed; enemy attacks repulsed at Medjez-el-Bab and Shiba; U. S. tanks gain advantage at Tebessa.
23—British tanks and American artillery halt Rommel south of Thala.
24—Enemy forced to withdraw in Kasserine area; American aircraft bomb Mareth Line positions.
26—Kasserine Pass falls into Allied hands.
28—Attack upon enemy in northern Tunisia from seacoast at Cape Serrat to Djebel Mansour.

MARCH

1—Flying Fortresses bomb Cagliari in Sardinia. Allies attack in Mareth area.
2—Americans capture Sbeitla.
3—U. S. bombers attack Tunis and La Goulette harbors.
4—Sharp fighting near Sedjenane; Americans recapture Sidi bou Zid.
6—American armored units enter Pichon; air raids on Hadjeb el Aioun.
9—On Mareth Line, enemy was forced to retire to heights near Hallouf.
11—Allies occupy Metlaoui; attacks made on El Aouin, La Marsa, and Gafsa.
12—Carl Spaatz and George Smith Patton, Jr., promoted to rank of Lieut. General.
13—Allied planes bomb Tunis, Sousse, and Enfidaville dumps.
16—Mezzouna airfield bombed; German armored vehicles dispersed in Gafsa area.
17—Allied bombers cut Gabes-Sfax railroad.
18—Americans capture Gafsa.
19—Americans capture El Guettar.
21—Americans capture Sened Station; advance towards Maknassay.
24—Americans repulse counterattack east of El Guettar.
25—Americans in patrol action near Meheri Zebbeus.
26—General Patton's forces fighting enemy in passes 10 miles southeast of Sened.
27—Americans advance towards Fondouk.
29—Mareth Line broken in southern Tunisia—key points of Mareth, Toujane, and Matmata overwhelmed.
30—El Hamma and Gabes occupied. Germans retreat towards Sfax. Metouia and Oudref occupied.
31—Sedjenane recaptured. Americans advance on El Maizila.

APRIL

1—American forces, contending with mine fields, attack beyond Maknassay.
2—U. S. troops retake hill near Meheri Zebbeus.
3—Gen. Patton launched heavy infantry attack east of El Guettar; five enemy planes downed by Allies.
5—Harbor and airfield at Naples

attacked by heavy bombers; Sfax and Trapani bombed; Tunisian airfields strafed.

6—Palermo bombed; enemy convoy attacked off Cap Bon.

7—British 8th Army and American II Corps join below Djebel Chemsi. Air attacks cripple 17 enemy ships off northern Tunisia and Sicily.

9—American II Corps mopping up east of El Guettar, taking many prisoners. Djebel Maizila captured by Americans.

10—British and American troops break though mountains north and south of Fondouk.

12—Americans and British take Kaiouran.

16—Liberators, 9th U. S. Air Force, attack Catania and Palermo.

17—General Eisenhower announced American casualties in Tunisia, to date, totaled 5,372, of which 903 killed and 859 missing.

18—Gen. Spaatz declares that Allies hold air mastery of northwest Africa, having downed 519 Axis planes and destroyed 1,000 more on the ground. The United Nations, in same period, lost 175 planes.

19—La Sebala and shipping at Tunis attacked.

21—Enfidaville occupied; Sidi Ahmed, La Marsa, and Le Sebala airdromes bombed.

22—Twenty-five German tanks destroyed in Madjez-el-Bab sector.

23—Carloforte harbor in Sardinia raided by air.

24—U. S. II Corps moves secretly to new positions in north to hold left flank athwart strategic Sedjenane-Mateur Road.

26—U. S. II Corps captures important height in Sidi N'sir sector; Flying Fortresses bombed Grosetto airfield in Italy and Bari airdrome.

28—Americans capture heights of Djebel Dardyss, Djebel Azag, and El Ajred. U. S. 9th Air Force attacks Messina and Naples harbors.

MAY

1—In northern area, Americans and French capture Djebel Hazemat.

3—Americans occupy Mateur.

4—Moving *via* Ferryville and Tebourba, Americans advance on Bizerte; U. S. bombers attack Reggio Calabria and Taranto harbors.

5—Americans capture Eddekhila.

6—Americans take Djebel Cheniti and Djebel Achkel.

7—U. S. troops, supported by French, capture Bizerte; British drive into Tunis.

9—Allied air forces strafe Cap Bon Peninsula. Heavy air attack on island of Pantelleria. On U. S. II Corps front, all enemy organized resistance ended at 11:00 a.m.

10—Pantelleria, Palermo, and Messina bombed.

11—Marsala and Pantelleria bombed.

12—General von Arnim, Axis commander, captured in Tunis. Prisoners taken since May 5 total 150,000.

13—Last remaining Axis elements surrendered. Bombing continued against Pantelleria, Naples, Cagliari, and Augusta.

15—Allied aircraft attack Palermo.

18—Alghero in Sardinia bombed.

19—Trapani and Pantelleria bombed.

21—Grosetto, Pantelleria, and Milis under air attack.

22—Air raids on San Giovanni and Reggio Calabria.

24—Pantelleria bombed.

25—U. S. bombers make daylight raid on San Giovanni and Reggio Calabria.

27—Targets strafed in Sicily and Sardinia.

28—Flying Fortresses attack Leghorn in Italy, damaging oil refinery and docks; U. S. heavy bombers attack airdrome at Foggia, Italy.

JUNE

1—Foggia airfield, communications in Sardinia, and Pantelleria targets bombed.

2—Island of St. Antioco under air attack.

3—Naval surface forces and Allied aircraft strike Pantelleria.

5—9th Air Force bombers attack Grottaglie airdrome in southern Italy; Flying Fortresses attack Spezia in northwest Italy; sea and air attack on Pantelleria.

6—Many enemy aircraft destroyed over Pantelleria; Liberators attack San Giovanni, Messina, and Reggio Calabria.

8—Unconditional surrender of Pantelleria demanded.

9—9th Air Force successfully attacks airfields at Gerbini and Catania.

10—Thirty-nine enemy aircraft downed over Pantelleria.

11—Pantelleria surrendered.

12—Allied air attack shifts to Lampedusa.

13—Lampedusa surrendered. Air attacks on airfields at Milo, Castelvetrano, and Bocca di Falco in Sicily; 125 tons of bombs dropped on airdromes at Gerbini and Catania.

14—Railway targets strafed at Messina, Termini Imerse, Fiume Torto, and Licata.

15—Allied aircraft attack Bocca di Falco, Castelvetrano, Sciacci, Borizzo, and Marsala.

16—Docks at Naples bombed.

17—Liberators bomb Comiso and Biscari.

18—Sardinian docks and railways damaged.

19—Quarter million pounds of high explosives dropped on Reggio Calabria and San Giovanni by 9th Air Force.

22—Many fires started by air raids on Salerno.

23—Catania bombed; industrial targets blasted in Sardinia; Sedes airdrome devastated by Liberator bombers.

25—Flying Fortresses damage yards, docks, and shipping at Messina.

27—Naples dock area bombed; Liberators attack Eleusis and Hasani airdromes near Athens.

28—San Giovanni marshalling yards attacked; Leghorn Harbor, Reggio Calabria, and Messina bombed.

30—Palermo and Sicilian airfields blasted.

JULY

1—Caligari barracks and railway station bombed.

2—9th Air Force bombs airfields at Lecce, Grottaglie, and San Pancrazio.

3—Trapani, Comiso, and coastal targets near Rome strafed.

5—American flyers made daylight attack on Messina.

6—U. S. heavy bombers strike Gerbini; railway targets at Catania bombed.

7-8—Round-the-clock bombing continued on targets in Catania, Gerbini, Comiso, Biscari, Sciacca, and Licata. Positions strafed at Cap Passero and Cap Murro do Porco; Canicatti radio station attacked.

9—One hundred Liberators led attack on Axis Command Headquarters at Taormina; Comiso airdrome bombed.

10—Invasion of Sicily by Allied forces begins before dawn. By 6:00 a.m., under heavy fire from covering forces of cruisers, monitors, destroyers, and gunboats, the success of all landings was assured. By 7:30 a.m., our troops were advancing and artillery was coming ashore. Our aircraft concentrated attacks on Sicilian roads and communications still in enemy hands. In the invasion, the first to land were air-borne soldiers in gliders, followed by parachute troops from transport planes.

11—Invasion of Sicily proceeding according to schedule; U. S. 9th Air Force attacked train yards at Catania and bombed airdrome at Vibo Valentia. Seven enemy ground counterattacks were repulsed; by end of day, Allied forces held Syracuse, Avola, Pachino, Pozzallo, Scoglitti, Gela, Licata, Ispica, Rosolini, and Noto.

12—Reggio Calabria and Vibo Valentia bombed by U. S. flyers. Navy continued to land reinforcements, vehicles, and supplies. Aircraft constantly attack enemy troop columns and motor transport. American bombers batter ferry terminals of Messina and Reggio Calabria.

14—American Seventh Army captures dominating hill position in Sicilian advance. Bombers strike at Messina and Enna.

15—British Eighth Army and American Seventh Army progress against desperate resistance. More towns captured—Canicattini, Bagni, Vizini, Vittoria, Niscemi, Modica, Comiso, Biscari, Riesi, and Canicatti. Naples airdromes and communications bombed, also Palermo docks.

16—Rail center of Randazzo under air attack. Ground forces capture Scordia, Lentini, Grammichele, and Caltagirone.

17—Military government set up in Sicily under General Alexander. Agrigento captured by U. S. troops. Italian 207th Division, with its commander, captured. Southern Italy and Sicily under constant air attack.

18—Allied bridgehead now occupies about 1/3 of Sicily. Airfields at Montecorino and Pomigliano attacked.

19—Americans capture Caltanissetta and Porto Empedocle. Bombers damage military targets at Rome. Hitler and Mussolini confer.

21—Successful attack on Crotone airfield and railway communications at Naples.

22—Fierce fighting south of Catania. Americans take Sciacci, Menfi, and Castelvetrano. Palermo captured in evening; several Italian divisions trapped there.

23—Railway junctions of Foggia, Salerno, and Battipaglia under air attack, along with Capodichino airdrome. Fearing invasion of mainland, Italian Government orders total mobilization.

24—Eighth British Army concentrates against Germans in Catania area—Americans occupy Marsala and Trapani.

25—Mopping up of western Sicily continues. Mussolini quits. Marshal Badoglio named Prime Minister of Italy.

27—U. S. troops progress slowly on northern coast of Sicily; Canadians break a counterattack at Enna.

28—Allied bombers attack many airfields. Americans capture Polizzi, Collesano, Petralia, and Alimena President Roosevelt, by radio, states terms to Italy are "Unconditional Surrender."

29—Seventh U. S. Army captures Pollina, Castelbuono, and Gangi. Stubborn fighting south of Catania.

30—Americans drive Germans back into mountains northwest of Troina.

31—Islands of Favignana, Levanzo, and Marittimo surrendered to the Allies.

AUGUST

1—U. S. Seventh Army captured 3 more towns. 9th Air Force made low-level attack on refineries in Ploesti area, Roumania. Eleven planes of this raid made forced landings on Turkish soil and crews were interned.

2—Naples docks and airfields at Capodichino attacked. Americans smash at San Stefano di Camastra and Mistretta. This move cuts German's use of important north-south highway.

3—Americans seize Capizzi and Cerami. Bombers attack Randazzo and rail communications at Naples.

4—General Eisenhower disclosed that Malta was operational headquarters for Sicilian campaign in which British and American air forces had made 12,538 sorties in four weeks to smash German airfields and communications.

5—Americans on north coast, aided by naval action, advance toward San Fratello. Allied planes bomb

Naples bases. British Eighth Army forces Catania to surrender.

6—Strong fighting against Americans at Troina; further south, Seventh Army occupied Gagliano Castelferrato. Messina shipping bombed.

7—Troina captured; Germans flee towards Randazzo. Allied planes batter Messina and ferry terminals of San Giovanni. Naples bombed.

9—Americans land at Torrenova, getting in behind Germans and driving them out of San Fratello and Sant' Agata di Militello.

11—U. S. Seventh Army and British Eighth Army troops make contact north and west of Bronté.

12—Protected by strong antiaircraft fire, German troops swarm across Strait of Messina to Italian mainland. Seventh Army half-way between Cesaro and Randazzo.

13—Americans capture Naso and Brolo in north Sicily. American warships shell roads from Piraino to Marina di Patti. Ground troops capture Randazzo.

14—Piraino and Floresta captured. Allied planes sink six German troop ferries in Messina Strait. Palmi and Pizzo in Calabria bombed to prevent German landings.

15—Seventh Army enters Oliveri. U. S. warships shell Milazzo. Messina Strait and railroad targets in southern Italy under steady bombardment.

16—American engineers rapidly clear road blocks and demolition agents left by Germans to slow American advance. Allied aircraft bomb Sapri, Sibari, and San Giovanni on the mainland. Seventh Army captures Barcelona, cutting off Germany's use of Milazzo.

17—American Seventh and British Eighth Army effect junction at Messina in Sicily completing conquest of the island. 9th U. S. Air Force pounds Foggia in southern Italy. Lipari and Stromboli Islands surrender to American Naval force.

18—General Eisenhower disclosed that Axis losses in 38-day Sicilian battle were 135,000 captured, 32,000 killed and wounded against our 25,000 casualties.

19—U. S. warships for first time bomb Italian mainland, firing on Gioia and Palmi. Allied planes pound communication points in toe of Italy.

20—Medium bombers attack Capri, Salerno, and Crotone.

21—Sardinian airfields and railway yards north of Naples bombed.

22—Naples strafed. Aircraft factory at Pomigliano d'Arco attacked.

23—Sharp battles for air superiority over southern Italy. 9th Air Force destroys 14 enemy fighters at Bari.

24—From steady bombing, railroads from Naples to Rome are blocked, as well as those extending eastward from Foggia, and the one to Calabria in the toe of Italy.

25—Allied raids continue on Italian communications and transportation facilities. Scores of German heavy bombers wrecked on ground at Foggia.

26—Capua and Grazzanise bombed. Roads, railroads, and gun positions in Reggio-Calabria area bombed.

28—Railway yards at Sulmona, Benevento, and Caserta successfully bombed. Allied air and sea attacks paralyze railways of southern Italy.

29—Taranto and Crotone heavily bombed.

31—Airfield at Viterbo and railway targets in southern Italy strafed.

SEPTEMBER

1—Allied planes pound Catanzaro, Cosenza, Cetraro, and Sapri. Near Naples they pound Salerno and, on the east coast, Pescara. Factory at Iglesias and railway yards at Aversa attacked.

3—Italian mainland invaded by Allied forces under command of

General Eisenhower. Italy signs an armistice which did not become effective, however, until later.

4—Most landings made at Marina di Gallico. Streaking ahead of ground troops, fliers hammered points in toe of Italian boot as well as farther north, to the east of Rome. Captured towns included Reggio and Villa San Giovanni. Many prisoners taken. 9th Air Force bombs Sulmona.

5—Commando force captures Bagnara, then joins British force to move on Palmi.

6—Enemy batteries having been eliminated, Messina Strait is fully opened to Allied shipping. In center of line, invading forces push inland 10 miles to San Stefano.

8—General Eisenhower announces unconditional surrender of Italian armed forces. Armistice referred to herein (Sept. 3) becomes effective. Just before the surrender, Allied planes hammered at Crotone, Catanzaro, Sapri, Lauri, Trebisacce, Foggia, Frascati, and Viterbo. Under armistice terms, Italy agrees to surrender French Corsica immediately, to transfer all naval and air units to Allies, to hand over in safety all United Nations prisoners, and to permit her merchant ships to be used against Germany. It was revealed that Marshal Badoglio had made four attempts to obtain an armistice, meetings having been held in Lisbon, Algiers, and Sicily. Finally, General Eisenhower gave the Italians 24 hours more in which to make up their minds and the discussions came to an end.

9—Allied forces land in area of Naples under cover of British and American Navies. Allied forces on mainland under Generals Sir Harold Alexander and Mark Clark.

10—Fifth Army troops established beachheads in Naples area in spite of strong German opposition. Allied Naval forces which covered troop landings were in command of Vice Admiral Henry K. Hewitt, U.S.N. Italian garrison surrendered Ventotene Island, 40 miles west of Naples. In toe of Italy, British Eighth Army continues its advance. Landing grounds at San Nicola and Tortorella bombed by 9th Air Force. In northern Italy, Rommel, German commander, forces surrender of Italian units; in southern France, Italian units surrendered to von Rundstedt. Germans also take over Italian war and merchant ships in the Aegean. Rome shelled and occupied by the Germans. Hitler denounces Badoglio and lauds Mussolini.

11—Fifth Army troops capture Salerno and push inland against strong resistance. British Eighth Army advances northward to reach Marina di Badolato.

12—British troops capture Brindisi, first Adriatic port to fall to the Allies. Eighth Army sweeps through Calabria, capturing Catanzaro.

13—Eighth Army sweeps forward. Crotone captured. Allies advance near Salerno. From Brindisi, British move up the coast.

14—Heavy fighting north of Salerno. Allied flyers, in support of ground troops, attack Torre del Greco, Pompeii, and Torre Annunziata. Port of Bari captured and Cosenza falls.

15—Germans attack heavily between Sele and Calore Rivers. Invasion forces withdraw from Altavilla and Albanella. British and American troops cling grimly to beachhead extending from Salerno to Agripoli. Allied planes bomb Potenza, Auletta, Avellino, Torre Annunziata, and Castellammare.

16—Eighth Army reaches Scalea; Fifth Army strengthens hold on beaches; battleships bombard Salerno targets. Potenza bombed as well as Khalkis in Greece.

Pope Pius XII protested German's isolation of the Vatican.

18—Fifth Army retake Montecorvino Pugliano and Roccadaspide. Potenza heavily bombed as were airfields at Ciampino, Cerveteri, and rail junction at Pescara. Purported voice of Mussolini broadcasts story of his liberation by German forces.

19—Germans withdraw from Sardinia to Corsica. British and Americans deepen beachhead at Salerno.

20—French Commandos land on Corsica to drive Germans out. At Naples, new gains made by Americans and British who occupy most of Sorrentine Peninsula. Allies hold islands of Capri, Ischia, and Procida. Badoglio urges all Italians to help throw Germans out.

21—French progress in driving Axis forces from Corsica. American occupation troops land in Sardinia. Germans set fire to Naples in preparation for a retreat. American Fifth Army captures Eboli and Montecorvino Rovella. Allied forces occupy islands of Kos, Samos, and Leros, by-passing Rhodes held by Germans.

22—Americans land on Corsica to support the French. On mainland, Germans lose San Cipriano, Montecorvino Rovella, and Campagna. Eighth Army occupies Potenza. Near smoking Naples, Fifth Army drives inland.

23—British and Americans advance. Ginosa, Avigliano, and Acerno captured. Allied bombers hit roads and transport in battle area. Liberators of 9th Air Force bomb Maritza airdrome on Rhodes and Eleusis airdrome at Athens. French-American force now holds two-thirds of Corsica. Germans scuttle 30 ships in Naples harbor and destroy port installations.

24—British Eighth Army captures Altamura and Matera. American Fifth Army drives southeast of Naples—Oliveto-Citra captured. On Corsica, Germans squeezed into narrow strip. Communications cut north of Trieste and Fiume. Allies bomb Pisa airdrome.

25—British and American forces advance toward Avellino.

26—On Adriatic coast, Allied troops reach line of Ofanto River; Allied aircraft bomb airdrome at Kastelli in Crete. Allied bombers raid Bologna, Verona, and Bolzano. Ground troops advance east of Salerno.

27—British cross Ofanto River and take Santa Margherita di Savoia and Cerignola. Americans advance into Cassano and Calabritto.

28—British capture Foggia. Americans advanced to Lioni and Castelnuovo. On Corsica, Germans abandoned Aleria. German planes attack Kos and Leros.

29—American Fifth Army troops capture naval base of Castellammare. Allied bombers attack airdromes in Greece and in Aegean Islands.

30—Enemy troops evacuating Naples; two columns of Fifth Army closing in, one on coast reached Torre Annunziata; the other, inland, went through Mercato San Severino. British move up to port of Manfredonia. German bombers strike at Kos.

OCTOBER

1—Troops of Fifth Army enter Naples. Other American forces capture Avellino.

3—Fighter-bombers attack enemy transport in Isernia-Campobasso area. Allies attack airfields at Calato and Maritza on Rhodes. Germans land and attack Kos.

4—Fifth and Eighth Armies advance—Motta and Montemiletto captured. French virtually complete capture of Corsica. On mainland, Allied forces cross Calore River above Benevento. Calato on Rhodes and Candia on Crete bombed.

5—Both wings of Allies advance

carrying line to Montesarchio and 40 miles from Pescara on the Adriatic. French occupy Corsica —Germans flee to Elba and Leghorn. Allied fliers bomb Pisa and smash at Bolzano near Brenner Pass. Occupation of Kos claimed by Berlin. Mitchell bombers strike Greek airfields.

7—British edge forward in Termoli area while American Fifth Army works its way toward Volturno River.

8—Americans advance in Volturno River sector. Capua is captured. Capital of Italian puppet government moved from Rome to Bolzano.

10—Larino and San Marco captured. Allied heavy bombers strike airfields in Greece. Kos, now held by Germans, attacked by Allied planes.

13—Fifth Army consolidates its positions. Italy declares war on Germany.

14—Fifth Army attacks positions on Volturno River.

15—Stubborn fighting along Volturno. Eighth Army takes Casacalenda. Air units bomb railways.

16—Campobasso and Vinchiaturo captured. Axis forces use demolition agents extensively to slow up our advance. Airfield in Greece, road junction near Venafro, bridges north of Capua, railway station near Petacciato, and airfield at Marcigliana bombed by Allied fliers.

17—Fifth Army now 5 miles north of Volturno River and Eighth Army drives towards Isernia. Bombers blast airfield near Rome.

18—Fifth Army repels German thrust and captures Merrone and Ruviano. British take Cancello.

19—Americans capture Alvignano, Liberi, and Pantelatone, Gioia Sannitica, and Faicchio. Enemy driven from the Volturno. British capture Montecilfone.

20—Eighth Army in heavy fighting between Baronello and Petacciato, Americans advance to Pignataro, Roccaromana, and Dragoni.

21—Eighth Army gains west of Campobasso. Allied planes bomb Gaeta Harbor, Cassino, and airfields near Rome. Milo, Syros, Rhodes, and Kos bombed.

22—Naples Harbor object of German plane attack. Fifth Army repels enemy attacks at Cancello ed Arnome and Alife. Eighth Army advances to Baranello. Allied planes batter railroads and bridges north of Rome.

24—Fifth Army takes Baja-e Latina. British cross Trigno River. Montenero, Lucito, and Campochiaro captured. Allied night bombers attack Guidonia airfield.

25—Fifth Army captures Sparanise, threatening the encirclement of Germans south of Mount Massico. Flying Fortresses and Liberators struck southern Austria while Mitchells bomb airfield at Tirana.

26—Fifth Army captures Francolise, Raviscanina, and Rocchetta-e-Croce. Eighth Army takes Bojano, Spineto, Petrella, and Palata.

28—Eighth Army advancing in difficult country—Torella, Castelmauro, and Mafalda taken. Fifth Army gains high ground and takes Riardo. Bombers attack gun positions at Gaeta.

30—In spite of rains and heavy artillery fire, Fifth Army captures Pietrarairano and occupies Mondragone. 12th Air Force attacks yards at Genoa. Fighter-bombers strike gun positions and troop concentrations at Macchiagodena. Eighth Army seized Montemitro.

31—U. S. warships from Gulf of Gaeta bombard rear of German lines while American troops advance to Nocelleto and Ailano. British capture San Massimo and Sant Elena. Allied bombers attack Genoa, Imperia, and Savona. Airfield at Perugia bombed.

NOVEMBER

1—Fifth Army captures Teano and Valle Agricola. Eighth Army takes Cantalupo, Macchiagodena, and Frosolene. Aircraft attack southeastern France and Albania.

2—Americans envelop Mount Miletto. U. S. 15th Air Force bombs Messerschmitt assembly plant at Wiener Neustadt in Austria.

3—Fifth Army captured Mount Massico and Mount Croce, reaching a point less than 90 miles from Rome. Eighth Army threw a bridgehead across the Trigno.

4—Fifth Army seized Sessa Aurunca and occupied Roccamonfina and Presenzano. Eighth Army entered Isernia. Aircraft bombed Cupello, Palmoli, Ceccano, and Ceprano. Airfields in Greece bombed. Secretary of War Stimson announced that, for the year, Axis casualties in the Mediterranean area totaled 600,000 as compared with Allied 100,000.

5—Fifth Army reaches south bank of Garigliano, capturing many villages. Eighth Army seized San Salvo and gains bridgeheads near Montemitro. Planes attack enemy motor transport and bomb Terni railroad viaduct.

6—Eighth Army captures Vasto on east coast and, inland, took Sessano. Fifth Army captures Venafro. Aircraft bomb Albanian airfields and highways between Rome and Terni. Airfields at Kos, Candia, and Maritza attacked.

7—Fifth Army flanked Mignano and captured Gallucio. Eighth Army takes Monteodorisio, Furci, Palmoli, and Celenza.

8—Crossings of Sinello River took Eighth Army to Scerni and Casalbordino. Stiff fighting rages north and west of Isernia. Fifth Army meets exceptionally strong opposition.

9—Eighth Army captured Torino and Paglieto. West of Galluccio, Fifth Army repulsed enemy counterattack.

10—Aircraft operate against enemy shipping and airfields in Aegean Sea. Industrial plants at Genoa and Turin bombed. British and Americans advance center of line to Castiglione and Forli.

11—Americans capture Mount Rotondo. Right wing of British takes Casalanguida. Air raids at Villa Perosa, yards at Bolzano, viaduct at Recco, and harbors of Durazzo and Spalato.

12—American Liberators bomb factory at Annecy and viaduct at Cannes. Allied fliers struck at Kos and Rhodes, at landing barges off Kalymnos, and targets on Crete.

13—Allied destroyers bomb Germans on shore of Gaeta Gulf. After enemy had retaken Mount Camino, Fifth Army again drove him out. Americans captured Pozzilli and Filignano. British advanced near Rionero. Allied fliers bomb freight yards at Cecina and Pontassieve.

14—British capture Atessa. Aircraft bomb Rhodes and Kos.

15—Allied planes attack Sofia, Metkovic, Sarajevo, and Marina in the Balkans.

16—Bad weather forces idleness for Armies. Bombers attack airdromes at Eleusis and Kalanaki in the Aegean. Air attacks on Calato, Maritza, and Crete.

17—By overwhelming air bombardment, Germans capture island of Leros. Allies continue to bomb Rhodes and Crete.

19—After taking Leros, Germans occupy Nicaria, Patmos, Furni, and Lipso. Status of British on Samos uncertain. Rivers and streams flooded by heavy rains.

20—Eighth Army captures Perano. Americans advance in Venafro area.

21—Eighth Army reaches Archi near Adriatic; in south, it captures Belmonte, Argnone, and Pietrabbondance. Fifth Army takes Castel San Vincenzo, and Rochetto.

23—Battlefield a sea of mud. Allied

troops evacuate Samos which Germans occupy. Allied fliers active in area from Pescara to Ancona on Adriatic coast. General Eisenhower disclosed that Lieut. General George S. Patton, Jr., had slapped and cursed a shell-shocked soldier in Sicily last August. Patton was ordered to apologize to all concerned and did so.

24—Eighth Army seized San Angelo del Pesco, Alfedena, and road junction to the east. Fifth Army wages artillery battle in Venafro Sector.

25—In exceptionally bad weather conditions, Eighth Army crossed Sangro River and secured a bridgehead. Air units attack Toulon submarine base. Sofia railway yards and Antheor viaduct bombed.

26—Castel di Sangro captured.

28—Improved weather conditions made possible patrol activities on Eighth Army front. American forces capture La Falconara.

29—British Eighth Army advances beyond Sangro River.

30—Eighth Army breaks into main enemy winter line northwest of Sangro River, overrunning Fossacesia, Santa Maria, and Mozzagrogna. Americans capture Castelnuovo.

DECEMBER

1—Communique gave pledges resulting from meeting in Cairo (Nov. 22-26) of President Roosevelt, Prime Minister Churchill, and Generalissimo Chiang Kai-shek. The Pacific Charter there formulated pledged to punish the aggression of Japan by: 1. Stripping Japan of all her Pacific islands; 2. Returning to China all territory wrested from her, including Manchuria; 3. Granting independence to Korea; 4. Expelling Japan from all other territory acquired by violence and greed.

2—Eighth Army completes capture of Fossacesia-Romagnoli ridge. Air attacks made on Marseille harbor; on ball-bearing plant at Turin; and on railway yards of Pontassieve. Enemy aircraft made heavy surprise attack in Bari area, sinking 17 Allied cargo ships.

3—Eighth Army captures Castelfrentano. Air bombing of Cassino area, San Georgio, Cervaro, Marseille harbor, Bolzano railway yards, shipping off Yugoslav coast, and railway center at Arezzo.

4—Eighth Army takes Treglio, Lanciario, and Orsogna. Fifth Army with splendid air support and heavy supporting artillery advances mountain lines in central Italy by about two miles. Bombers attack Casale airfield and Dalmatian ports.

5—San Vito Chietino captured. British capture Mount Camino and Americans seize Mount Maggiore.

6—Supporting Eighth Army operations, British destroyers shell coastal road above Pescara. R. A. F. heavy bombers attacked Salonika. American bombers attacked shipping near Leros. Declaration, dated Teheran, Dec. 1, released, pledging destruction of German armies, U-boats, and war factories. Pledge signed by President Roosevelt, Prime Minister Churchill, and Premier Stalin.

7—Airfields at Eleusis and Kalamaki near Athens attacked by Allied heavy bombers. R. A. F. bombers attacked Porto Largo on Leros and dockyards at Salamis in southern Greece. Bulletin released stating that at Cairo, Dec. 4-6, Roosevelt, Churchill, and President Inonu of Turkey conferred on the several interests of the three countries in a "spirit of understanding and loyalty."

8—Fifth Army captured Mount Camino summit and began descending slopes towards Rome.

9—Eighth Army in heavy action near Orsogna. Heavy bombers attacked Eleusis and Tatoi airfields.

10—Canadian troops, Eighth Army, establish positions north of Moro River. Fifth Army captured Rocca D'Evandro. Enemy driven from entire eastern bank of Garigliano River. Air attacks on communications in Rome area and on east coast of Italy. Candia harbor on Crete bombed.

11—Eighth Army captures San Leonardo. Air power directed against Sofia railway yards; Ventimiglia railway bridges; Civitavecchia harbor; and Yugoslav shipping.

14—Eighth Army pushes its Indian troops forward in central portion of battle line. Bridges damaged at Pontecarvo and Castello; Suda Bay harbor on Crete bombed.

15—Caldari captured on Eighth Army front. American bombers and fighters strike at Athens area, bombing Piraeus, Eleusis, Kalamaki and Tatoi.

16—American planes bomb targets near Trento, Bolzano, and Innsbruck on the other side of Brenner Pass.

18—Eighth Army drives towards Cheti and Pescara. Fifth Army captured Mount Lungo and enveloped San Pietro Infine on three sides.

19—Fifth Army captured San Pietro Infine and, farther north, took Cerasuebo. RAF bombs Salamis in Greece.

20—Eighth Army overrun coastal positions along the Adriatic. Innsbruck railway yards bombed and Augsburg attacked.

21—Air attacks on Sofia railway yards and on Eleusis airfield.

23—Indian troops of Eighth Army progress in central sector. Canadians take most of Ortona. French troops of American Fifth Army capture Mount Cavallo.

24—Eighth Army captures Vezzani.

26—Arielli captured. Heavy bombers struck at Bolzano railway yards and Vicenza barracks.

27—Indian troops of Eighth Army complete capture of Villa Grande. Area near Florence under air bombing. Air Chief Marshal Sir Arthur Tedder announced as Eisenhower's Deputy Commander for invasion of Europe.

28—Fifth Army gains control of Mount Sammucro massif.

29—Enemy cleaned out of Ortona. Allies advance towards Francavilla and Pescara. Allied bombers attacked airfields at Guildonia, Centocelle, and Ciampino near Rome. Admiral Sir Bertram Ramsay to command Allied Naval units and Air Marshal Trafford L. Leigh-Mallory the Allied air forces in planned invasion.

31—Canadian troops advance up Adriatic coast. Fifth Army captures San Vittore. Area near Tollo-Cheti area under air attack as well as railway targets at Padua, Rimini, Borgo, San Lorenzo, Roccasecca, Falconara, and Via Reggio.

WESTERN EUROPE

JANUARY

13—Flying Fortresses successfully attacked industries at Lille. Airfields bombed at St. Omer, Venturas, and Abbeville.

14—U. S. and British formations attack railway targets in northern France and coastal shipping off Low Countries.

21—U. S. and British planes bomb airfields at Caen and Tricqueville and docks at Cherbourg and Flushing.

26—British and American planes make sweeps over northern France and Belgium.

27—Flying Fortresses and Liberator bombers make first all-American assault on Germany with daylight raid on Wilhelmshaven base and port of Emden.

FEBRUARY

2—R. A. F. and U. S. aircraft make daylight raid on Abbeville railway yards and airfield at St. Omer.

4—Flying Fortresses of the U. S. 8th Air Force attack targets in western Europe.

15—U. S. and British flyers make two heavy raids on Dunkerque.

16—U. S. heavy bombers make daylight attack on submarine installations at St. Nazaire.

26—Flying Fortresses and Liberators pound naval base at Wilhelmshaven.

MARCH

6—U. S. heavy bombers attack targets at Brest and Lorient.

8—In face of strong opposition, Flying Fortresses and Liberators attack German submarine base and railway center of Rennes in Brittany, and railway yards at Rouen.

12—American heavy bombers strike at Rouen.

13—8th Air Force flyers attack railway targets at Amiens-Longueau, Abbeville, and Poix.

18—Flying Fortresses and Liberators make daylight raid on U-boat yards at Vegesack in northwest Germany. This was the largest daylight raid thus far by U. S. aircraft over the Reich; over 100 planes took part and 25 enemy fighters were shot down.

22—U. S. bombers raid German naval base at Wilhelmshaven.

28—American heavy bombers attack railway yards at Rouen.

APRIL

4—Flying Fortresses attacked Renault motor and armament works at Billancourt, near Paris, downing 25 German planes.

5—Successful American bombing raid on industrial targets at Antwerp.

15—U. S. fighters made sweep over northern France.

17—Strong force of American heavy bombers attack Focke-Wulf aircraft factory at Bremen in daylight raid, destroying 50 enemy aircraft while losing 16 of our own ships.

29—U. S. fighters carry out sweeps over France, Holland, and Belgium.

MAY

1—8th Air Force attacked U-boat base at St. Nazaire in France.

3—Lieut. Gen. Frank M. Andrews, commanding U. S. forces in Europe since Feb. 4, 1943, killed in airplane accident over Iceland.

4—U. S. heavy bombers attack industrial targets in Antwerp.

13—U. S. flyers attack enemy airplane factory at Meaulte and airfields at St. Omer.

14—U. S. aircraft make daylight raids on Kiel in Germany, Antwerp and Courtrai in Belgium, and Velsen in the Netherlands.

15—8th Air Force attack harbor of Emden.

17—Heavy U. S. bombing attack on Lorient, Keroman, Bordeaux, and the Cherbourg Peninsula.

18—U. S. flyers make offensive patrol over Belgium.

19—American flyers make daylight attacks on Kiel and Flensburg in Germany.

30—Largest formation of U. S. heavy bombers ever to strike at western Europe makes attacks at St. Nazaire, Rennes, and La Pallice.

JUNE

11—More than 200 8th Air Force bombers made daylight raid of ports and shipyards at Wilhelmshaven and Duxhaven.

13—8th Air Force in fierce battle over German naval and U-bases of Kiel and Bremen—many enemy interceptors destroyed; U. S. loss, 26 bombers and 2 fighters.

22—At cost of 20 bombers and 4 fighters, 8th Air Force attacked synthetic rubber factory at Huls and General Motors plant near Antwerp; many targets hit in the Ruhr and Belgium.

25—U. S. flyers successfully attack U-boat installations at St. Nazaire and airfield at Beaumont-le-Roger.

29—Without loss, 8th Air Force

bombers attacked objectives in Le Mans.

JULY

1—8th Air Force attacked over northern France and the Low Countries. In marking the end of its first year's work over Germany, the U. S. 8th Air Force had dropped a total of 11,423 bombs in 68 daylight missions over 102 enemy targets. At a cost of 276 bombers, the Force shot down 1,199 enemy aircraft, probably destroyed 525 more, and damaged 501.

11—Secretary of War Stimson landed in England; stopped off at Iceland en route by air.

14—U. S. flyers join in R. A. F. raid over Paris district.

17—8th Air Force heavy bombers attack industrial targets in Amsterdam and northwest Germany, shooting down 50 enemy planes while losing only 2 bombers.

24—Flying Fortresses bombard aluminum plant at Heroya and submarine repair station at Trondheim—17 enemy fighters downed; U. S. loss, 1.

25—Large formation U. S. heavy bombers attacked aircraft factories at Warnemuende and Hamburg; also seaplane base at Wustrow and shipyards at Kiel. Other U. S. aircraft bombed targets near Ghent, enemy airfield at Woensdrecht (north of Antwerp), and airfield at Shibol (Amsterdam).

28—Aircraft factory at Kassel bombed as well as assembly plant at Aschersleben near Magdeburg. Medium bombers struck industrial targets in France and Belgium.

29—Flying Fortresses attack shipyards at Kiel and Heinkel aircraft factory at Warnemuende.

30—Heavy bombers attacked Fieseler aircraft works at Kassel; other missions were flown over airfields at Woensdrecht (Holland), Schipol, Courtrai, and Coxyge.

AUGUST

1—Statistics show that U. S. 8th Air Force destroyed more than 500 German fighter planes in July.

2—8th Air Force attacked German airfields at Merville and St. Omer in France.

17—American Flying Fortresses, with escorting Thunderbolts, destroyed 307 German fighter planes in twin raids over Regensburg and Schweinfurt—U. S. loss, 59 of B-17 planes. "Marauders" hit German airfields at Bryas, Sud, and Poix in France.

26—U. S. Marauders attack German airfield at Caen in Normandy. Other sweeps made over northern France.

30—8th Air Force planes attack targets near St. Omer.

31—U. S. flyers bomb enemy airfield at Lille-Vendeville and chemical works at Mazingarbe in France. Flying Fortresses, along with Thunderbolts, successfully attack Amiens-Glisy airfield in France.

SEPTEMBER

2—Flying Fortresses of the 8th Air Force attacked airfields at Mardyck and Denain in France.

4—Marauders of 8th Air Force attacked railroad yards at Lille, St. Pol, Hazebrouck, and Courtrai.

6—Flying Fortresses attacked targets in southwest Germany; Marauders struck at railway yards of Rouen.

7—Flying Fortresses attacked aircraft factory at Brussels-Evere and targets near St. Omer. Liberators attack enemy convoy off Dutch coast.

8—8th Air Force attacks Lille-Nord and Lille-Vendeville.

9—U. S. heavy bombers attack airfields and other targets in 9 areas of northern France. Over 1,000 sorties flown by American flyers.

10—Anglo-American flyers raid Paris and Boulogne.

15—Flying Fortresses attack aircraft plants in Paris area. Airfields at

Romilly, Meriville, and Bryas-Sud attacked.

19—U. S. Marauders bombed airfields at Lille and Meriville in France and Woensdrecht, Holland.

21—Marauders of 8th Air Force attack airfields at Beauvais-Tille, France.

22—Marauders attack enemy airfield at Evreaux-Sauville, France.

23—Anglo-American bombing force register on targets at Nantes, Vannes-Meucon, Kerlin, Conches, Morlaix, Poulmic, Rouen in France and Wemeldinge in Holland.

24—8th Air Forces bomb targets at Nantes, Rennes, Beauvais-Tille, Lille, Abbeville.

25—American flyers attack German airfield at St. Omer-Longuenesse.

26—U. S. Flying Fortresses attack Reims airfield.

27—Flying Fortresses attacked port installations at Emden and targets in Aurich. Marauders attacked airfields at Beauvais-Tille and Conches while other bombers attack Rouen-Sotteville and airfields at Abbeville-Drucat.

28—Anglo-American air attack over Hanover, Brunswick, and Emden in Germany.

OCTOBER

2—Flying Fortresses, escorted by Thunderbolts, attacked port installations at Emden in Germany knocking out 19 enemy fighters. Marauders attacked airfield at St. Omer-Longuenesses in France.

3—U. S. flyers bomb airfields at Woensdrecht, Haamstede, and Amsterdam-Schipol in the Netherlands.

4—Flying Fortresses attack aircraft factory at Frankfurt am Main and airfield at St. Dizier in France. Liberators in sweep over North Sea. For the day—75 enemy fighters were destroyed with a loss to us of 15 heavy bombers.

8—855 U. S. planes participate in 1,250-ton raid on Bremen.

9—Formations of 8th Air Force made their deepest penetration into Germany, attacking Arado aircraft factory at Anklam and another at Marienburg. Shipyards at Danzig and docks at Gydnia bombed.

10—Flying Fortresses bomb Muenster and rail installations at Coesfeld in Germany, Enchade airfields in Netherlands.

14—American flyers attack ball-bearing factory at Schweinfurt in Germany, and with considerable loss in men and planes, is estimated to have cut Germany's war production in this plant 50 per cent.

20—Fortresses of 8th Air Force attack non-ferrous metal plant in Dueren, Germany, and Gilze Rijen airfield in Holland.

27—Statistics released show that in 100 days from July 9 to Oct. 17, Allied bombers had dropped 192 times as heavy a load of bombs on Germany as the enemy had dropped on Britain. The R. A. F. dropped 74,000 tons, the U..S. 8th Air Force, 18,000 tons, and the Germans 480 tons.

NOVEMBER

3—Wilhelmshaven bombed by 400 planes of the 8th Air Force. Marauders raked Schipol, Tricqueville and St. Andre de l'Eure airfields.

5—Factories at Gelsenkirchen and Muenster attacked by 8th Air Force; also targets in Belgium and northern France.

7—Dueren and western Germany targets bombed by 8th Air Force.

10—U. S. Marauder planes attacked Chièvres airfield, near Brussels.

11—8th Air Force raids western Germany and Cherbourg area of France.

13—U. S. Air Force attacked Bremen.

16—U. S. Liberators bomb molybdenum mines at Knaben and power station at Rjukan in Norway.

18—Liberators of 8th Air Force attacked German air base at Kjeller near Oslo.

19—Western Germany bombed by 8th Air Force.

23—U. S. Marauder planes attacked enemy airfields at St. Omer and Berck-sur-Mer.

25—U. S. fighter planes, carrying bombs for the first time in this theater, bombed airdromes at St. Omer, Fort Rouge, and St. Omer-Longuenesse.

26—Bremen bombed by 8th Air Forces; northern France also bombed—Pas de Calais and Cherbourg.

DECEMBER

2—Flying Fortresses and Liberators attacked Solingen.

4—Thunderbolt fighter-bombers attack German airfield at Gilze Rijen in Holland.

11—U. S. 8th Air Force attack German installations at Emden.

17—American flyers participate in heavy raid on Berlin.

20—Flying Fortresses and Liberators attack Bremen.

21—U. S. units bomb military objectives in northern France. At Valencia, members of Spanish Falange broke into U. S. Consulate.

22—Berlin threatens reprisals on American and British war prisoners for Germans executed in Russia on atrocity charges.

24—Participating in a gigantic 3,000-plane attack, the U. S. 8th Air Force put 1,300 planes into the air to bomb the Pas de Calais area in the greatest concentration in air history. President Roosevelt announced selection of Gen. Eisenhower to lead Anglo-American force in invasion of Europe; Lieut. Spaatz to be American Air Force commander for this offensive.

25—Rumored that German planes would try a sneak raid on New York City and east coast. This resulted in a "state of alert" for areas named on Christmas Day.

29—Prime Minister Churchill reports his complete recovery from pneumonia attack.

30—Largest number of heavy bombers and fighters ever sent out by U. S. 8th Air Force attack targets in southwestern Germany, striking at Mannheim and Ludwigshafen.

31—RAF announces Allied air forces definitely achieved air supremacy.

ALASKAN AREA

JANUARY

2—Jap cargo ships in Kiska harbor bombed by U. S. heavy bombers.

5—U. S. aircraft sink cargo ship northeast of Kiska.

6—Enemy shipping southwest of Kiska bombed.

28—Jap float planes beaten off in attack on U. S. ships west of Aleutians.

FEBRUARY

8-10—Jap installations and camp areas on Kiska bombed by U. S. aircraft.

13—Three Zeros shot down by U. S. flyers in night attack.

18—Two Jap float planes shot down in western Aleutians.

22-28—Daily bombing attacks on Kiska by U. S. aircraft.

MARCH

2-15—Daily bombing attacks, varying in number, made on Kiska.

16—U. S. bombers score hits on submarine base at Kiska; large fires started.

18-24—Daily bombing attacks on Kiska.

25—Abraham Harbor, Attu Island, attacked by U. S. bombers.

26-30—Daily attacks on Kiska.

30—Holtz Bay on Attu raided.

APRIL

1—Kiska bombed.

2—Kiska and Attu bombed.

5—One attack on Attu; five on Kiska.

10-16—Daily attacks on Kiska.

17—Liberators make one attack on Attu; nine on Kiska.

18—Hits scored in North Head, Salmon Lagoon, and main camp areas of Kiska.

19-24—Daily raids on Kiska.

25—One attack on Attu; thirteen on Kiska.

26—Canadians join Americans in eleven attacks on Kiska.
27-30—Daily raids on Kiska.

MAY

1—Heavy explosion near North Head on Kiska followed one of thirteen attacks made. Heavy bombers struck at Holtz Bay and Chicagof Harbor on Attu.
2—Fires started at Gertrude Cove on Kiska as result of bombing raids.
3—New fires observed as resulted of nine attacks on Kiska.
4—Heavy bombers and Lightning fighters make concentrated attack on Holtz Bay and Chicagof Harbor, Attu.
5—Attu strafed and Kiska bombed.
11—U. S. forces land on Attu and engage Japs. Landings made at Holtz Bay and Massacre Bay.
17—Operations continue against Japs on Attu.
19—U. S. forces seize high ridge southeast of Holtz Bay while troops from Massacre Bay move northward. Enemy troops withdraw towards Chicagof Harbor. Americans capture Sarana Pass.
20—U. S. troops now hold runway in Holtz Bay area.
21—Liberators bomb Kiska.
22—Battle for Attu enters final phase; Jap forces split into three parts.
24—Steady pressure kept on Japs on Attu; many of their units liquidated.
25—In face of sleet, snow, and rain, U. S. forces press forward on Attu; Kiska bombed.
26—All buildings in Chicagof Area on Attu destroyed. U. S. troops get foothold on high ground south of Chicagof. Hand to hand fighting. U. S. forces penetrated part of Fish Hook Ridge, making the attack to eliminate Japanese position south of Lake Cories. Kiska again bombed.
27—American soldiers capture strong Jap position on Fish Hook Ridge.
28—Jap defenses concentrated in area formed by north wall of Chicagof Valley, Holtz Pass, and Chicagof Harbor.
29—Jap force annihilated in counterattack on U. S. forces in Chicagof Valley floor.
30-31—U. S. forces continue to mop up remaining Jap pockets of resistance on Attu. Fires started by bombers over Gertrude Cove on Kiska.

JUNE

1—To date, known Jap dead on Attu, 1,791; prisoners taken, 11. American losses on Attu, killed 342; wounded, 1,135; missing, 58; total 1,535.
4-5—Bombing attacks on Kiska.
7—Jap death total on Attu raised to 1,826.
9—Nineteen more Japs killed on Attu; 5 more made prisoner.
10-15—Bombing attacks on Kiska continue.
16—Three more Japs taken prisoner, raising total prisoners to 24.
20—Kiska bombed.
24—Fifteen more Japs killed on Attu; Kiska bombed.
25-30—Kiska under daily bombardment.

JULY

1-5—Air attacks continue on Kiska.
6—Surface task force bombarded Kiska—no response.
12—Two Jap ships sunk by aircraft fire while trying to run supplies to Kiska.
15-18—Bombing attacks on Gertrude Cove, Kiska.
19—Army Liberators successfully attacked Paramushiru in Kurile Islands.
20—Two light U. S. surface units bombarded Jap main camp in Gertrude Cove area—no response.
22—One U. S. plane shot down by Japs over Kiska—crew rescued.
24—Ten strafing attacks on Kiska, one U. S. plane lost.
25—Hits scored at North Head on runways and antiaircraft positions.
26—Catalina patrol bomber attacked

Gertrude Cove main camp at midnight; during day, U. S. Liberators made 13 bombing attacks.

27—Hits scored on Kiska bivouac area.

29—Flying Fortress bombs Kiska.

30—Light surface units bombard Gertrude Cove and main camp areas on Kiska.

AUGUST

12—Formation of heavy bombers attack Jap installations in Kurile Islands.

15—Task force of American and Canadian troops landed in Kiska to find that all the Japs had fled from the island. In period Aug. 1-15, no news was released from American headquarters in order that no helpful information might seep out to the Japs.

23—Landing made on Segula Island, 20 miles east of Kiska—no Japs found.

EAST ASIAN AREA

JANUARY

1—Bombers of 10th Air Force attack Shwebo and railway communications in northern Burma.

2—Morywa air base strafed.

4—Noba Junction and Mandalay railroad yards bombed. Jap ship bombed while moving up Irrawaddy River.

7—U. S. planes attack Mangshih and Bhamo; barges bombed in Irrawaddy River.

10—U. S. 10th Air Force destroyed bridge over Irrawaddy River at Myitnge near Mandalay.

15—U. S. flyers attack enemy headquarters north of Maingkwan. Heavy bombers strike convoy south of Rangoon—7,000 ton cargo vessel sunk and another ship damaged.

16—Shipping south of Rangoon and railway yards at Maymyo bombed.

19—U. S. bombers strike docks at Bassein, following strafing attacks at Kaming. Railroad installations at Thazi bombed.

25—Shaduzup and shipping at Rangoon raided by 10th Air Force.

26—Railroad installations at Mandalay bombed.

FEBRUARY

1—Docks at Rangoon hit by air attack.

3—Ten enemy planes destroyed in raid on Jap base at Keng Tung.

5—10th Air Force attacks railroads at Myitnge.

8—U. S. flyers inflict heavy damage on Rangoon docks and railways.

9—Mingaladon blasted. Lieut. General Arnold met in conference with Field Marshal Dill, Field Marshal Wavell, and Generalissimo Chiang Kai-shek.

14—Jap headquarters at Maingkwan bombed by 10th Air Force.

15—Lonkin bombed and railway rolling stock in central Burma damaged.

16—Motor vehicles destroyed at Nsopzup.

19—Railroad yards bombed at Ywatyaung; Jap headquarters at Maingkwan attacked; troop concentrations at Taro bombed as well as installations at Mezalican, Hupinginhka, and Meza.

23—American air base in northeast Assam bombed by Japs.

25—10th Air Force intercepted and dispersed Jap planes over Assam. Camp in Hukawny Valley, the Myitgne Bridge, and a locomotive west of Myitkyina bombed.

27—Cargo ship sunk by 10th Air Force and railroad bridge at Pazundaung bombed.

28—U. S. flyers from Assam blasted Jap base at Waingmaw. Railroads at Thazi attacked.

MARCH

2—Gokteik railroad viaduct attacked by 10th Air Force.

3—U. S. heavy bombers damage installations at Rangoon, Ahlone, and Maymyo.

10—Mingaladon airfield attacked by 10th Air Force.

12—Railheads and bridges in northern Burma bombed.
14—Gokteik Viaduct and dock at Moulmein bombed by 10th Air Force.
15—Continual attacks on Gokteik Viaduct, Myitnge Bridge, Pazandaung Bridge, and bridge at Kadrangyaung.
16—Myitkyina area strafed.
19—Strategic bridges in Burma under systematic air bombardment.
22—Installations in Mogaung bombed. Two river steamers sunk near Myitkyina.
23—U. S. planes attack Thazi railroad junction; Merktila airfield bombed.
24—10th Air Force disrupted communications by attack on railroad yards at Maymyo, Ava Bridge near Mandalay, and Myitnge.
26—Mingaladon airfield and central station at Rangoon bombed.
28—Jap base at Tavoy bombed by 10th Air Force.
29—U. S. planes attack Jap headquarters at Maingkwan and an enemy position north of Sumprabum.
30—Successful air attack made on railway facilities at Maymyo.
31—Americans bomb railway yards at Pyinmana.

APRIL

1—Railway objectives bombed at Ywataung.
2—Thazi railway junction attacked.
4—Thilawa oil refinery south of Rangoon blasted.
6—Pazundaung Bridge bombed.
7—Railroad yards in Rangoon and troop concentrations near Shingbwiyang attacked.
8—Enemy supply dump at Ningam destroyed. Heho airdrome bombed.
12—Walabum village attacked; Magwe air base raided.
13—Shadzup and village of Namyaseiz bombed.
14—American flyers made effective attack on Manywet.
15—Warehouses at Prome and railroad yards at Ywataung bombed. Thailawa oil refinery heavily damaged.
16—Bridges at Penbaw and Mogaung destroyed.
17—Communications bridges blasted by air raids.
21—American bombers attack Bangkom in Thailand.
22—Enemy targets in Rangoon bombed.
26—Chinese pilots flew on their first combat mission with 14th U. S. Air Force in raid over Burma. Base at Heho attacked.
27—Thazi railroad junction bombed; Diamond Island attacked.
28—River shipping at Katha bombed. P-40 fighters attacked installations at Naopzup, Manyaseik, and Tahona.
29—Docks at Rangoon attacked.
30—Mohnyin and Weshi bombed.

MAY

1—Rangoon airfield bombed.
2—Central Burma railroad targets bombed. U. S. 14th Air Force intercepted and dispersed 30 Jap planes over Hunan Province, destroying 13.
4—American bombers struck at Maymyo, Pakokku, Alon and Japanese headquarters at Tungoo. U. S. 14th Air Force, making their first raid from bases in China, attacked Hanoi-Haiphong Area and Samah on Hainan Island.
5—U. S. fighters strafe Waywang.
6—Namtu mines bombed by 10th Air Force.
7—U. S. bombers attack Mu bridge.
8—Railroad yards at Rangoon bombed, also Sinthe railroad bridge and Natkayaung railroad yards.
9—Maymyo barracks, Yamethin railroad yards, and truck center near Makingkwan bombed.
12—Railroad bridges at Pyinmana bombed; supply dumps at Kamaing blown up; troop concentrations at Kawnan strafed.
13—Tenth Air Force bombs railway yards at Mandalay; Liberators

bomb Heho airfield; Moulmein attacked.

15—Tavoy on Tenasserim Peninsula attacked; U. S. 14th Air Force engaged flight of 76 planes over Yunnan Province, damaging or destroying 25 while losing but 2 planes.

16—Railhead of Burma Road at Lashio bombed.

19—Tenth Air Force dropped 125 tons of bombs on targets in Lanywa, Singu, Mague, Thayetmo, Payaye, and Paddauka.

20—Americans bomb Monywa, Myingyan, Alon, Thayetmo, Prome, and Allanmyo.

25—Barracks near Kamaing and Washawing bombed; Manywa and Thazi attacked.

29—U. S. aircraft blasted enemy installations in Hukawing Valley.

30—U. S. bombers start fires at Taihpa-Ga and Yupang-Ga. U. S. 14th Air Force assist Chinese in blows at Jap supply lines near Ichang.

31—With Chinese ground troops, 14th U. S. Air Force attacked targets at Yochow and Ichang.

JUNE

1—Burma: Targets bombed at Mandalay, Monywa, and Legyi. Buildings fired at Manywet and at Tumbongha.
China: Jap troops bombed on western Hupeh front.

2—China: Supported by American bombers, Chinese mopped up west bank of Yangtze; entered Itu and captured Yangchi.
Burma: Radio station on Diamond Island bombed.

4—China: 14th Air Force in action near Ichang; Meitseya recaptured.

5—Burma: Railway targets attacked at Alon.
China: Mopping up of retreating Japs continues in vicinity of Itu.

6—Burma: Oil station at Chauk bombed.
China: Pailoki airdrome and airfield at Shasi strafed. Railway targets on Canton-Hankow road bombed.

7—Burma: Jap camp attacked at Wehsi.
China: Itu occupation completed.

8—China: 14th Air Force attacked military targets at Hongai.

11—Burma: Raids in Hukawng Valley destroyed military buildings at Laza and started fires in Taro, Ningbyen, Kantau, and Lalawng.

12—Burma: Ferryboats on Irrawaddy River and railway at Mandalay bombed.
China: Capture of Sungtze completed.

14—Burma: U. S. flyers bomb bridge over Mu and railroad shops at Maymyo. Lieut. General Joseph W. Stilwell returned to China after a strategy conference in Washington, D. C.
China: 14th Air Force defeated Jap bombers and fighters southwest of Nanchang.

15—China: 14th Air Force makes destructive attack on Owchihkow in rice-growing area.

16—Burma: U. S. bombers destroyed or damaged 11 enemy boats on the Irrawaddy.

17—Burma: 10th Air Force dropped 10 tons on enemy targets at Lashio.

21—Burma: Railway targets bombed at Thazi Junction.
China: 14th Air Force supported Chinese operations in Tungting Lake area; bombed enemy warehouses at Hwajung and attacked Jap troops at Shihshow.

25—Burma: Railway targets blasted at Ywataung and buildings destroyed on Mandalay Ghats.

26—Burma: 10th Air Force attacked targets north of Shwebo.

JULY

1—Burma: Nine tons of bombs dropped on shipping in Irrawaddy River.

2—Burma: 10th Air Force bombs oil refinery at Syriam; an oil field at Yenangyat; barracks at Pyawbwe; buildings at Ntaunungyan and Chauk; and railroad installations at Kyungon and Kawlin.

3—Burma: American flyers bomb Myitnge and industrial area of Myingyan.

4—Burma: 10th Air Force bombs Shwebo, Meiktila, Shweli Bridge, and Prome.

7—Burma: 10th Air Force made damaging raids on Jap supply system.

13—Burma: 9 tons of bombs dropped on railway at Myingyan.
China: For past seven days, 14th Air Force active over French Indo-China. Targets were struck at Haiphong Harbor, at the Whampao dock area in Canton; at Hongay, and at shipping near Cam Pha Port and in Dalong Bay. Much damage done to Jap installations and shipping.

19—Burma: 10th Air Force attacked Shweli Bridge, Suprabum, Kawnan, and Kadrangyang.
China: 14th Air Force continues air attack on shipping near Haiphong and Honghay.

23—Burma: Bombers attack dock area at Mandalay and airfield south of Kawlin.
China: In Hunan Province, Japs attempt destruction of 14th Air Force advanced bases. Jap loss, 28 Zeros and 16 bombers either destroyed or damaged. U. S. loss, one plane.

24—Burma: Japanese forces at Sumprabum attacked—large buildings destroyed and troop quarters set on fire. Heavy bombers also struck at Pagoda Point landing grounds. Small steamer damaged at Akyob.

27—China: 14th Air Force concentrates action against shipping in Samah Bay.

29—Burma: 10th Air Force strikes at Mu River bridge; railway targets at Tangon; mills at Mhingyan; village of Dawaw.
China: 14th Air Force attacked Hongkong-Kowloon Harbor damaging shipping. Japs make another fruitless attack on American base.

30—Burma: Targets at Chauk, Pintha, Myingyan, Meiktila, Sumprabum, Shingban, and Manywet were bombed by 10th Air Force.

AUGUST

1—Burma: Dock and storage area at Katha bombed.
China: President Lin Sen dies; Generalissimo Chiang Kai-shek named acting president.

3—Burma: 10th Air Force scores hits on railroad base at Thanbyuzayat, on Metlet, Koksogyon, Kenu, the Thazi railroad, and Meitila dam.

9—Burma: Ports of Katha and Bhamo heavily bombed; Sedow shot up.

10—Burma: 10th Air Force strafes Japanese targets from Arakan coast to Mandalay.

12—Burma: American bombers sink large boat in Chindwin River and damage bridge near Monywa. Railway hit at Ye. Targets bombed at Kinu and Sedow.

15—Burma: U. S. heavy bombers strike at Chatham Island in Andaman Group.

16—Burma: 10th Air Force bombs targets at Sagaing, Alon, Ywataung, and Chang-u.

17—Burma: Bombing does heavy damage to Meiktila.
China: 14th Air Force attacks Jap troops and supply station at Caulo near Hanoi. U. S. dive bombers destroy enemy fuel dumps at Mangshih in western Yunnan.

19—Burma: American flyers bomb Thazi Junction and other rail centers.

20—Burma: 10th Air Force supports attack of ground troops at Rangse, Hangsen, Rannu, Lakchang, Shingban, and Seton.

21—China: Japanese planes made futile attack on 14th Air Force base in Kwangsi Province. In retaliation, U. S. planes bombed Tien Ho airdrome at Canton.

22—Burma: 10th Air Force concentrated on destruction of enemy freight cars at Sagaing, Mandalay, and Ywataung. Monywa and Pagoda Point also bombed.

26—China: 14th Air Force destroyed nearly 25,000 tons of enemy shipping in Kowloon dock area at Hongkong. Airdrome at Tien Ho bombed.

28—Burma: 10th Air Force does heavy damage to installations in Akyab area.

31—China: 14th Air Force attacked Gialam airdrome near Hanoi, a new enemy airfield at Ichang, and rolling stock on Hankow-Canton Railway at Yochow.

SEPTEMBER

1—Burma: Bombers of 10th Air Force attacked Monywa, Hsipaw, Ywataung, Sagaing and Mandalay. Fires started in Mandalay railway yards.
China: Wharves at Shihhweiyao and shipping on Yangtze bombed by 14th Air Force.

2—Burma: Forty tons of bombs dropped on enemy barracks at Pyawbwe and oil tanks at Chauk.
China: Dive bombers from 14th Air Force sink two ships near Stonecutter's Island, off Hongkong. Hankow-Canton Railway bombed.

3—Burma: Heavy bombers of 10th Air Force fly 2,000 miles to attack military facilities at Car Nicobar Island. Jap headquarters at Sumprabum attacked.

7—Burma: Objectives near Shihhweiyao damaged by 10th Air Force.

11—Burma: U. S. flyers attacked railroad yards and docks at Sagaing, Pyinmana also bombed.
China: Chiang Kai-shek unanimously elected President of China. 14th Air Force badly damages Jap shipping in Hongkong Harbor.

12—Burma: 10th Air Force attacks Meiktila airdrome and Ramree Island.
China: Dr. T. V. Soong reports Japanese efforts to secure alliance with Chinese to fight a racial war against the white man.

14—Burma: Supply bases in Hukawng Valley and railroads at Kanbalu bombed by 10th Air Force. American-trained Chinese troops under Brig. Gen. Haydon Boatner defeat Japs in skirmish in Naga Hills country.

17—Burma: Maymo, Ywataung, and Sagaing attacked.

18—China: 14th Air Force bombed iron foundry at Shiweiyao.

19—Burma: 10th Air Force attacks Monywa, capital of Chindwin District; and starts fires in Lonkin.

20—Burma: Naba railway junction and Sagaing ferry terminal attacked by 10th Air Force.
China: In attack on 14th Air Force headquarters, Japs lose 26 planes.

25—Burma: 10th Air Force blasts Maymyo barracks.

26—Burma: Medium bombers attack railway yards in Mandalay area; heavy bombers strike at Letpadan.

27—Burma: 10th Air Force continue to smash at enemy communications at Pyawbwo, Kyaukse, and Akyab.
China: 14th Air Force strafes shipping in Gulf of Tonkin, sinking enemy tanker.

30—Burma: 10th Air Force bombers attack barrack areas at Pakokku, warehouses at Magok, and railway targets at Tantabin, Ngapayin, and Ye-u.
China: 14th Air Force damages enemy shipping near Fort Bayard.

OCTOBER

1—Burma: 10th Air Force drops 26 tons of explosives on Thazi. Shipping at Bassein and works at Namti bombed.
China: 14th Air Force wrecks power plants and enemy planes at Haipong.

4—Burma: U. S. flyers attack Shwebo, Sagaing, and Ywataung.

5—Burma: 10th Air Force attack railroad yards at Chauk, Meik-

tila and enemy shipping at Rangoon.
China: 14th Air Force drives off attempted Jap raid and blasts targets at Shihweyao.

8-9—Burma: 10th Air Force attacks Naba Junction, barracks at Lashio, rail yards at Hsipaw, and other targets at Maymyo, Holin, and Taingzup.
China: 14th Air Force raids Gialem airdrome and Jap bases near Hanoi.

10—Burma: American aircraft strike at Kanbau tin mines. Camp area of Kamaing and Sagaing railway yards bombed. Jap supply base at Pintha attacked and fires started at Natchaung. Bombers strafed Taro and Lackchang Ga.
China: 14th Air Force bombs targets in Yunnan Province, including oil storage at Tinga and cement plant at Haiphong.

11—Burma: Our heavy bombers strike Sagaing railway yards. Nyaungbinwun railway yards and Mandalay waterfront bombed.

14—Burma: 10th Air Force drops 75 tons of bombs at targets at Rangoon, Prome, Henzada, Kyaukpyu, Thabeikyin ferry, and docks at Kyaukmyaung. Japs declare the Philippines a free and independent nation.

16—Burma: Mitchell bombers attack Naba Junction and damage sugar mills at Htawgaw.

19—Burma: Landing ground at Myitkyina and airdrome at Heho bombed by American planes.

20-21—Burma: 10th Air Force score on targets at Mogaung, Myitkyina, Myingyan, Kanbalu, Kamaing, Sahmaw, Hopin, Mogaung, Loikaw.

22—Burma: U. S. aircraft attacked Alon, the Mu Canal Bridge, and Prome railway.

23-24—Burma: 10th Air Force in central and northern Burma blasted railways and bridges to wreck Jap's attempts to maintain supply routes in northern Burma.

26—Burma: Liberators strike at Rangoon while Mitchells bomb Mu River Canal.

27—China: Mitchell bombers attack tankers off Hainan Island. Haiphong and Tengchung attacked.

28—Burma: 10th Air Force continues methodical destruction of railway and communications facilities—Toungoo, Pakokku, and Shwebo bombed.
China: 14th Air Force successfully attacked Kwangchowan Peninsula, Fort Bayard Barracks, Yochow airdrome, factory at Kienli, and town of Manshih.

NOVEMBER

1—Burma: U. S. planes raid Meza River bridge and Zigon bridge. Mogaung, Namtib, Pagoda Hill, Meiktila, Lashio airdrome, and landing field at Onbauk.

2—China: 14th Air Force actively supports Chinese ground troops in central Yangtze River area.

3—China: Owchihkow, Hwajung, and Shihshow attacked by 14th Air Force. Akyab blasted with 250 tons of bombs.
Burma: Loiwant airdrome and Myitkyina attacked by 10th Air Force.

4—Burma: American flyers attack Kamaing, Lonking, Yupbang Ga, and Pagoda Hill.

7—Burma: 10th Air Force targets were Naba, Mogaung, Undaw, Mahnyin, Sahmaw, Bhamo, and Maymyo.

11—China: 14th Air Force sinks 15 sampans and barges in Yangtze.
Burma: 10th Air Force attacks Heho airdromes and Minzu airfield.

14—China: In direct support of Chinese ground troops, 14th Air Force bombed Yochow and targets at Shasi.

15—China: U. S. Liberators bomb shipping and docks at Kowloon and Hong Kong while Mitchell bombers strafe Kwangchowan Peninsula.

16—China: Liberators bomb Hong Kong objectives; fighter planes attack Dong Coung airdrome near Hanoi. U. S. aircraft attacked Jap cavalry unit making a river crossing, inflicting many casualties.

19—Burma: For past week, Allied aircraft concentrated on airfields, supply dumps, and communication centers in southern Burma. China: In Tungting Lake area, 14th Air Forces supports Chinese ground troops; villages of Chunghai and Pingka strafed.

22—China: Mitchell bombers attack Fort Bayard on Kwangchowan Peninsula.

23—Burma: From 19th to 23d, U. S. aircraft attack positions in Arakan.

24—China: 14th Air Force supports Chinese ground attack by bombing Jap concentrations at Yochow.

25—Burma: Mandalay railway station and airfields at Heho, in Thailand, and Rangoon bombed. China: 14th Air Force makes its first attack on Formosa by attacking airdrome in Shinchiku.

26—China: American P-40's in support of Chinese troops sank 12 Japanese supply boats on Tungting Lake and machine-gunned 30 small boats, loaded with personnel, at Hanshow.

28—China: 14th Air Force strafes installations at Luang Prabang and power plants at Cam Duomg.

29—China: U. S. fighter planes and bombers attack Japanese positions on west bank of Salween River in western Yunnan. Mitchell bombers raid Tonking Gulf, sinking an enemy freighter.

DECEMBER

3—China: After 15-day siege, Japs capture vital rice bowl city of Changteh.

4—Burma: On Salween front, 14th Air Force inflicted heavy damage on troop column and truck convoy near Kiucheng. China: Mitchell bombers and fighters support Chinese troops in Tungting Lake area, attacking installations near Changteh. American fighters drop food and ammunition to the Chinese in Tehhan Mountain.

6—Burma: American heavy bombers attack all installations on Andaman Islands in Bay of Bengal.

9—Burma: U. S. fighters on Salween front air-attack railway targets in north Burma. China: Chinese retake Changteh, American units assisting in the series of operations.

10—China: U. S. Liberators bomb railroad yards and warehouses at Hanoi.

11—Burma: American planes bomb barracks and transportation concentrations at Tachai and Santsum.

12—Burma: U. S. fighter-bombers attack 4 villages on Salween front. China: U. S. Liberators bombed Hankow airdrome and Hanoi freight yards.

13—China: U. S. aircraft attack Kungan and Lichow.

14—China: Mitchells raid Wuchang in central China and bombed Shasi. Burma: American bombers hit oil targets at Chauk and Yenangyaung.

15—China: U. S. fighters dive-bomb and machine-gun airfield at Yochow; other planes attack Owchihkow and Shihshow.

17—China: U. S. planes bomb Loak railroad station in French Indo-China and strafe shipping on Red River.

19—Burma: U. S. bombers strike at Bangkok docks. British and German air forces merge into an Eastern Air Command for Burma-India area. Lord Louis Mountbatten named Air Chief Marshal, with Sir Richard Peirse in command and Major Gen. George E. Stratemeyer second in command.

20—Burma: Liberators bomb airdrome at Namsang. Fighter planes strafe Laihka airdrome.

21—China: Liberators make successful raid on Chengmai railroad yards in Thailand.

23—China: U. S. 14th Air Force bomb White Cloud airdrome at Canton.

25-26—Burma: Enemy positions in northern Burma bombed; Aniskam strafed.

27—China: American 14th Air Force strafed targets in French Indo-China—Phutho barracks; barges on Red River; railway targets at Dong Cuong.

30—China: Ground and air forces again control area around Owchihihkow in Hunan-Hupeh border regions.

PACIFIC

JANUARY

1—Bombing in Dutch New Guinea. Shipping bombed in Jacquinot Bay, New Britain. Enemy airdromes bombed at Gasmata, New Britain and Buka in Solomons. Patrol fighting on Guadalcanal Island.

2—Lae airdrome and town of Salamaua bombed. Enemy resistance broken in Buna area.

3—Japanese fleet heavily damaged by American aircraft northwest of Rendova Island.

4—Rabaul and Gasmata in New Britain bombed; also Madang and Lae in New Guinea.

6—Allied planes strafe Timor, Fuiloro airfield, Lae, Mandang, Salamaua, and Sananda. 9 enemy vessels sunk at Rabaul. Flying Fortresses attack enemy cruiser at Buin.

8—Heavy damage to enemy shipping and aircraft in air fight over Huon Gulf, New Guinea. Papuan campaign brought to close by destruction of forces under Jap General Horii.

9—Continued attack on enemy convoy which was pursued into Lae harbor. Gen. MacArthur returns to his headquarters in Australia. Rekata Bay bombed. Enemy planes downed over Island of Bougainville.

10—Allied planes bomb enemy villages on Timor. More Jap ships sunk in Huon Gulf. Ten Jap fighters and one bomber destroyed in attack on Lae.

12—Allied aircraft bomb Dobo in Aroe Islands; American planes bomb Munda.

13—Allied long-range fighters attack Fuiloro airdrome on Timor.

14—Heavy rains slow down operations near Sananda; raids continue on Merauke, Gasmata, Madang, and Finschhafen. Ground forces gain slowly against stubborn resistance on Guadalcanal.

15—Enemy supply dumps on Lae blown up.

16—Allied planes bomb Matkus Island, Tanimbar Group, and Kendari in the Celebes. Enemy planes shot down over Huon Gulf. Allied ground forces break through at Sananda.

18—Enemy transport bombed off Admiralty Island. Five Jap ships sunk in Rabaul harbor. Small pockets of enemy resistance on Guadalcanal being systematically wiped out.

19—Allied forward elements reach Giruwa in Sananda campaign.

20—Four enemy bombers make ineffectual raid on Milne Bay, Papua.

21—Enemy fighter shot down over Ambon; barges attacked off Willaumez Peninsula; Madang, Finschhafen, and Lae attacked. Army personnel relieves Marine personnel on Guadalcanal. General Alexander M. Patch, U.S.A., relieves Major General Alexander A. Vandegrift, U.S.M.C., in command.

22—Allies bomb shipping at Amboina and at Rabaul. 12 Japanese fighters downed over Wewak; Lae airdrome bombed.

24—Continued air attacks on Fuiloro, Koepang, Rabaul, Wewak, Madang, Finschhafen, and Lae.

25—Salamaua Isthmus bombed; 2 enemy planes shot down on Wewak; U. S. forces capture Kokumbona; joint air and sea bombardment ruins enemy positions on Kolombangara Island in New Georgia Group.

27—Buka in Solomons attacked. Rabaul, Gasmata, and Cape Gloucester in New Britain attacked. Supply dump at Lae bombed. Flying Fortresses bomb airfield at Ballale Island in Shortland Islands.

28—Allied bombers hit Faan and Roemaat in Kai Islands and Mubo near Ganison Hill.

31—Enemy attack broken in Mubo-Wau area. Allied planes strike at supply dumps in New Guinea area.

FEBRUARY

1—Shipping attacked at Rabaul and at Wewak; 9 enemy aircraft destroyed at Koepang; fighting continues on Guadalcanal.

2—U. S. ground forces advance against stubborn resistance on Guadalcanal.

3—Rabaul and Vanakanau bombed; Americans cross Bonegi River on Guadalcanal.

4—Allied bombers demolish barracks and planes at Dobo; Buin airdrome raided; ground patrols in Wau area blast at enemy raids; U. S. aircraft strafe enemy barges near Aruligo Point on Guadalcanal and successfully attack Munda.

5—On Guadalcanal, ground forces advance to within ½ mile of Tassafaronga.

6—Night raids on Buin and Buka in the Solomons. Japs lose many aircraft in fighting over Wau airdrome. Allied ground forces pass Tassafaronga.

7—U. S. forces establish strong position at Titi near Marovovo on Guadalcanal.

8—Airdrome near Lae bombed; our bombers sink enemy troop-carrying barges in Riebeck Bay; Jap positions at Munda bombed.

9—Allied bombers attack Babo, Dobo in northwest area, and Buin, Gasmata, and Finschhafen in northeast sector. Titi position consolidated. At 4:25 p.m., Gen. Patch reported that Japanese positions of resistance on Guadalcanal had all been eliminated.

11—Allied bombers attack Toeal, Kai Islands; Ubili in New Britain; and positions at Munda, Georgia Island.

12—Enemy decisively defeated in Wau area and in retreat towards Mubo; Munda bombed.

13—U. S. flyers attack Kolombangara; Rabaul and Ubili bombed; Lae strafed; Jap shore positions in Shortland Islands attacked. From January 15 to February 9, U. S. troops killed 6,066 Japs and took prisoner 127 on Guadalcanal.

15—American air attack on enemy shipping at Buin destroys 11 Jap planes. Munda and Kolombangara bombed.

17—Allied bombers strike at Dili, Lae, the Salamaua Peninsula, Ballale, and Kahili.

18—American Sixth Army formed from troops in Australia and New Guinea, with Lieut. General Walter Krueger in command.

19—Allied bombers successfully attacked Kahili airdrome at Buin in the Solomons.

20—Over 23 tons of bombs and incendiaries dropped on Kahili airdrome and Faisi seaplane base. Vila and Munda bombed.

24—U. S. flyers score hits on Jap troop barge near Choiseul Island; strafe enemy positions at Rekata on Santa Isabel Island. In Waria River area, Allied attack units harass enemy villages and strafe enemy barges near Lasauga Island. Large destroyer and cruiser hit near Rabaul.

28—Poor weather conditions restrict air activity. Many enemy planes shot down when they attacked Wau airdrome. Americans bomb Munda. During February, Japs lost 660 killed and 73 captured in Buna area, Papua.

MARCH

1—Convoy of 14 Jap ships sighted

approaching New Guinea Coast. Allied planes attack Penfoei, Toeal, Finschhafen, and Lae, inflicting heavy losses in every instance.

3—Japs lose 6 out of 15 planes in their attack on Darwin airdrome, Australia. Hudson patrol bomber strafes Japanese position at Munda. In Bismarck Sea, Allied heavy bombers repeatedly strike enemy convoy, sinking many vessels and putting 13 Jap planes out of action. Entire convoy dispersed over wide area northeast of Finschhafen.

4—Final figures show that Japs lost 10 warships, 12 transports, and 15,000 soldiers in Battle of Bismarck Sea.

5—At Lae, 6 enemy fighters on the ground and 17 planes in the air were put out of action; bombing continues on Munda, Buin, Kahili, and Ballale.

6—In Huon Gulf, long-range fighters and bombers completed destruction of barges, life boats, and rafts from sunken ships of Bismarck Sea convoy. A task force bombarded Jap installations at Vila and Munda.

11—Allied aircraft bomb Saumlakki on Tanimbar Island. Japs lose 4 of flight of 22 planes over Guadalcanal. Allied heavy units, off Boetoeng Island, knocked out enemy 7,000-ton vessel and bombed 2 cargo ships north of Boeroe Island.

12—Enemy force of 24 bombers and 16 fighters over Oro Bay, New Guinea, driven off, losing 12 fighters and 2 bombers.

16—Japanese lose 2 bombers and 12 fighters out of a force of 25 bombers and 24 fighters in raid over Darwin.

22—Allies strafe Gasmata airdrome; Madang; Finschhafen.

24—Army fighters strafed enemy seaplane base at Rekata Bay.

26—Heavy bombers start great fires in Rabaul; two raids on Lae airdrome.

27—Liberators attack Japs on Nauru Island, west of the Gilberts. Three-hour bombing attack on Wewak area scores direct hit on 4,000-ton cargo ship.

29—Air attacks continue on Langgur, Dobo, Gasmata, Madang, Buin, Kahili, and Finschhafen, starting fires at the latter place.

APRIL

1—Bridge near Madang bombed. Sixteen Jap planes downed northwest of Guadalcanal.

2—U. S. dive bombers attack Suavanau Plantation, South Isabel Island.

4—Allied aircraft raid Timika; Langgur airfield; and Saumlakki.

5—Enemy heavily damaged at Lae and in Mubo region. Allied heavy bombers complete destruction of enemy's heavy naval concentration at Kavieng, accounting for shipping aggregating 36,000 tons.

7—Vila under air attack; Rekata Bay strafed. Jap force of 48 Zeros bested in attack on Guadalcanal shipping. Japanese lost 34 planes; Americans, 7.

11—Villages and barracks near Bogia bombed along with strafing of Ossu and Viqueque on Timor. Eight power barges sunk in Bogia harbor. Enemy antiaircraft position silenced at Rekata Bay.

12—U. S. aircraft bombed Vila and Ringi Cove. 37 of a force of 100 enemy planes put out of action at Port Moresby. In Rabaul area, enemy submarine sunk by air attack. In Bismarck Sea, Allied heavy reconnaissance unit struck at enemy shipping.

15—Allied planes shoot down 30 Japanese planes in Milne Bay. Kaimana harbor shipping bombed. Vila and Munda strafed.

17—Gasmata airdrome bombed twice. Over Amboina, 4 of 12 Jap fighters shot down.

21—Flying Fortresses attack Jap positions at Kieta while torpedo bombers strafe Jap airfield at Kahili. Shipping bombed in Tonolei harbor.

22—Enemy bombers raid U. S. positions at Funafuti in Ellice Island Group. Munda bombed. Liberators bomb Kahili and Rekata Bay. Direct hit scored on enemy cargo ship off Kavieng, New Ireland.

24—U. S. flyers damage shipping in Kai Islands, Aroe Islands, and Sermata Islands.

MAY

2—Enemy shipping bombed in Manokwari harbor.

3—Enemy cargo ship driven on reef of Tual, Kai Islands. Rekata Bay stations attacked.

4—U. S. planes attack Vanga Vanga and Ringi Cove on Kolombangara Island. Flying Fortresses smash at Vila and Rekata Bay.

5—U. S. planes strafe Vélla Lavella Island.

6—Timiki area bombed.

7—Liberators strike at Kahili and at Ballale.

8—Munda bombed. Japanese destroyer hit near Gizo Island, Georgia Group.

10—Enemy bombers raid Millimgimbi, Australia. Enemy cargo vessels bombed off Sorong; barges strafed off Rooke Island. Vanga bombed.

12—Vunakauna airdrome near Rabaul bombed.

14—Grounded Jap planes destroyed at Gasmata. Enemy patrols whipped near Mubo. In vicinity of Russell Islands, 18 Zeros shot down; U. S. losses, 5.

15—Allied aircraft bomb Timika, Dili, Unea Island, Umbili, Gasmata. The bridge across Kumuli River bombed, as well as Finschhafen. Japs lost 16 planes in attempted raid on Oro Bay.

16—Allied bombers raid Nabire and Vunakanau. Over Willaumez Peninsula, Allied bombers destroyed 2 fighters. Ineffectual Jap bombing in Wau area. Ground clashes at Bobdubi.

17—Kendari airdrome in Celebes attacked. Enemy vessel set on fire off Bougainville.

18—Japanese attack U. S. positions on Guadalcanal and Russell Islands.

19—Enemy fighters strafe Wau. Allies bomb Vunakanau airdrome; the Arawe area; Gasmata; Cape Gloucester airdrome; and Lorengau in Admiralty Islands.

20—Enemy raided Dobodura and Milne Bay.

21—U. S. heavy bombers attack Kahili and Ballale.

23—Allied heavy units bomb Kaimana, Gasmata, Cape Gloucester, and Finschhafen. In Australia, enemy makes ineffectual raid at Exmouth Gulf.

24—Japs make futile attempts to raid Guadalcanal and Espiritu Santo. Allies drop 16 tons of bombs on Sulphur Creek seaplane base and dispersal areas at Vunakanau in New Britain.

27—Langgur airdrome bombed and Arawe coastal area raided. Mubo strafed.

28—Madang, Finschhafen, and Lae areas bombed. Enemy force raided along Morobe-Mambare coast.

29—U. S. bombers attack Munda. Nineteen tons of bombs dropped on Boram, Dagua, and Wewak airdromes.

31—New Guinea airdromes at Boram and Wewak bombed. In New Britain, aircraft attacked Cape Gloucester, Gasmata, and shipping in Talasea area.

JUNE

1—Langgur airdrome in Kai Islands bombed.

2—Lae and Gasmata airdromes bombed.

3—Japanese installations in Tinputs harbor attacked, as well as Numa harbor.

7—Munda attacked and installations on Choiseul Island strafed.

8—With the loss of 7 U. S. planes, 19 Zeros were shot down and 6 damaged in vicinity of Russell Islands.

12—Airdromes in Rabaul area raided; Koepang heavily damaged; positions at Madang and Bogadjum machine-gunned.

16—U. S. planes in battle over Guadalcanal shot down 94 Jap planes in coordinated attack by U. S. Army, Navy, Marine, and New Zealand flyers.

23—In New Guinea, Allied ground and air forces cooperate in attack on Japanese positions between Pimple Hill and Buigap Creek.

24—Lae airdrome under fire. Enemy base at Macassar in Celebes bombed.

25—U. S. flyers make daylight raid on 3 Japanese bases in the Solomons, starting numerous fires.

27—Ballale Island, Poporang, Munda, and Vila attacked.

30—In face of heavy Jap attack, U. S. combined forces landed on Rendova Island, New Guinea.

JULY

1—Joint U. S. forces take Viru harbor. Allies land on Nassau Bay shore. Woodlark Island and Trobriand Group occupied by Allied forces.

3—Americans and Australians clear the Japanese from area south of Bitoi River Delta as well as harrying positions at Malolo and Lae. MacArthur now in command at the front.

4—U. S. flyers attack Bairoko harbor.

5—Enemy planes driven off in attempted attack on Rendova. U. S. flyers attack Rekata Bay. Kahili and Ballale airdromes bombed.

6—Army Liberators bombed Buka Island.

7—Enemy makes futile raids over Darwin and Nassau Bay.

8—Labu Lagoon near Lae strafed; combined ground and air forces attack Observation Hill and Kitchen Creek in Mubo area. Force of 56 Zeros dispersed over Rendova.

9—Allied planes attack Penfui airdrome; Buigap Creek bombed; supply dumps blown up at Vila; Kahili bombed; Bobdubi Ridge strafed; dive bombers attack enemy bases at Enogai Inlet and Bairoko.

10—Oil installations bombed at Boela; supply lines at Malolo, Kela, Logui and Komiatum bombed; 61 tons of bombs dropped on enemy works at Munda.

12—Attacks continue on Jap positions at Penfui, Taberfane, Babo, Vanakanau, Bobdubi Ridge, Kela, Munda, and Vila.

13—Medium bombers raid Keaukwa; heavy bombers strike Rabaul; Mission Point to Logui strafed; Kahili and Munda bombed; enemy air force whipped over Rendova; single enemy bomber brought down over Russell Island.

14—Langgur and Dobo airdromes bombed. 21 tons of bombs dropped on Lae. Ballale airdrome attacked. Ground forces advance against Munda despite stiff resistance. Over Timor, Allied planes attack Cape Chater and Lautem airdromes; over Bougainville, Allied bombers strike at Buka, Kahili, and Ballale.

15—Mubo, New Guinea, captured; 45 planes shot down over Rendova; Munda and Vila airdromes bombed.

17—Lae airdrome heavily bombed; Bairoko area strafed.

19—Heavy bombers attack Macassar; ground and air forces attack camp areas at Komiatum; beachhead in Munda area enlarged; Kahili and Ballale bombed.

21—Koepang and Lautem in Timor area bombed; 30 tons of explosives dumped on Madang; Ballale and Kahili bombed.

22—Penfui airdrome bombed; Japanese lose many planes over Madang; enemy counterattack repulsed at Munda.

23—Allied surprise raid on Surabaya in Java; enemy barges sunk at Saidor; superior enemy force dispersed over Rendova; Japanese bombers attacked Funafuti.

24—Air and land forces join in attack on Bairoko and Bibolo Hill in New Guinea.

26—Adaut and Lingat on Selaroe bombed by Allies; dawn attack on Gasmata airdrome; Japs lose many planes over Bougainville and Rendova.

27—Two Jap supply vessels wrecked off Cape Cunningham in New Britain; Allied planes drop demolition bombs in Komiatum area; Vila airdrome bombed.

28—Enemy barge concentrations attacked near Lae; Jap-held coastal villages in Munda area wiped out.

29—Allies bomb oil field port of Boela on Ceram Island. Barge base strafed near Rein Bay; low-level flying sweeps made on barge hideouts on Huon Peninsula.

AUGUST

2—Oil refinery at Boela bombed; Gasmata attacked; enemy barges at Ulimaingi strafed; Lae airdrome hit; Munda and Kolombangara bombed.

3—Gasmata airfield attacked; Hansa Bay supply base bombed; Finschhafen airdrome bombed as well as Salamaua area and coast of Huon Peninsula. Ground forces make good advance at Munda.

4—Barracks area at Manokwari and jetty area on Larat Island bombed; barges strafed in Borgen Bay; ground forces reach eastern end of air field at Munda.

5—Salaroe Island airfield strafed; Gasmata and Cape Gloucester airdromes bombed; sharp fighting at Bobdubi between ground forces. Advance continues on Munda.

6—All enemy resistance ceases on Munda. Allied heavy unit bombed bivouac area near Karramata Village, Vitu Islands in Bismarck Sea, Webster Cove on Kolombangara, and enemy barges near Madang.

7—Allied units bomb Keaukwa. Barge targets hit at Bostrem Bay. In Buin-Faisi area, attack by Zeros driven off. Troop-carrying barge destroyed off Vella Lavella. Rekata Bay supply dump bombed.

8—Laha, Penfui, Lautem, and Cape Chater airdromes bombed. High explosives dropped on antiaircraft positions in Kela and Logui. On Rendova, 6 enemy planes downed.

9—McCluer Gulf and villages of Timika and Kaukenau bombed. Finschhafen and Salamaua strafed.

12—Lautem bombed. Seaplane base at Taberfane attacked. Enemy barges destroyed at Gasmata. Allied aircraft sweep Huon Peninsula. Barge hideouts in Labu Lagoon strafed. Vila bombed. Ground forces advance on Zieta Village.

14—Heavy bombers attack Balikpapan, main enemy oil port in Borneo. Dili bombed. Allied attack planes sweep coast near Gasmata. Kahili, Vili, and Ballale airdromes bombed heavily. Supply dumps strafed at Papatura Islands. Ground forces surge forward on New Georgia Islands.

16—Keaukwa village bombed; 10 barges destroyed between Rein Bay and Stettin Bay. In Watut Valley, Allied fighters whip Jap air formation. Komiatum sector heavily bombed. Ground forces close in on Zieta Village. Over Vella Lavella, 34 enemy planes shot down. Vila airdrome bombed.

17—Langgur and Saumlakki bombed. Enemy works near Lae attacked. Vila airdrome and Rekata Bay supply base strafed. Vella Lavella seized by Allied forces.

18—Seaplane base at Taberfane bombed. In Wewak area, over 225 enemy planes were caught on ground by Allied surprise raid—nearly 200 Jap planes were destroyed or damaged. Coordinated attack in force against Vila airdrome. Ground forces continue to advance at Zieta.

19—After flight of 2,600 miles, Allied

planes bomb oil refinery at Balik Papan. Destruction of Japanese planes at Wewak completed. Enemy barges sunk at Cape Bushing. Seaplanes at anchor bombed in Rekata Bay.

22—Beaco and Betano villages bombed. Nickel mines at Pomelaa bombed. Wewak area the scene of fierce combat. Dagu and But heavily attacked. Bougainville, Shortland area, raided by Allied fighters.

23—Dili and Timor airdrome bombed. Salamaua area high grounds captured by Allies. Enemy field guns captured on Baanga. Barge centers at Oula and Supato bombed.

24—Seven bombing attacks on Tanimbar Islands. In New Guinea, Allied ground troops cross Francisco River. Barge hideouts strafed in Kula Gulf.

25—Bombing does great damage on Tanimbar Island villages. 112 tons of bombs dropped on Wewak, near the airdrome.

27—Lautem and Koepang bombed. 19 barges destroyed at John Albert harbor. Gasmata airdrome bombed. Shipping at Hansa Bay attacked. Kolombangara barge stations strafed. Allied ground forces closing in on Bairoko.

28—Taberfane seaplane base raided. New Guinea areas bombed. Japs lose cruiser to air attack off Bougainville. Kahili airdrome bombed. Allied ground troops complete liquidation of Bairoko position and all resistance on New Georgia Island ceases. Hundreds of Japs killed when P. T. boats sank evacuation barges. Kolombangara Island and its base at Vila now virtually isolated.

29—Atambua on Timor successfully attacked. In New Guinea, barge hideouts and building areas bombed. Finschhafen strafed. Rekata Bay and Kahili airdrome successfully attacked.

30—Dili bombed. Shipping in Hansa Bay area strafed. Jetties destroyed at Lae. Sharp ground fighting at Salamaua. Barges wrecked at Hameri Cove. Arundel Island in the Solomons occupied.

31—Babo airdrome bombed. Japs lose many planes in Wewak area. Enemy bases bombed in Madang Area. Kahili airdrome attacked. Barges destroyed at Sigolehe.

SEPTEMBER

1—Enemy seaplanes damaged at Taberfane; at Cape Gloucester airdrome, 5 enemy bombers destroyed on ground; 92 tons of bombs dropped near airdrome in Wewak area; at Finschhafen, 5 enemy barges sunk; oil port of Bula bombed; 36 of force of 60 Jap planes downed in fight over Kahili airdrome; Rekata Bay area bombed.

3—Langgur airdrome attacked; Jap cargo ships and barges bombed near Cape St. George, New Ireland; fuel dump destroyed at Jacquinot Bay; 9 barges sunk near Cape Gloucester; nine Jap planes destroyed in fight over Vella Lavella; Allied artillery bombs Vila.

4—Allied aircraft attack Ambon, the Latha airdrome, and Halong seaplane base; 15 barges destroyed in New Britain area; warehouses at Gasmata, Arawe, and Vitu bombed; heavy attacks on Lae; airdromes at Kahili and Vila bombed. Japs abandon their central Solomons base at Rekata Bay on Santa Isabel Island. Southwest of Salamaua, U. S. and Australian troops join their lines.

5—MacArthur begins investment of Lae by landing a powerful Allied force on Gulf of Huon, east of Lae. Coordinated land, sea, and air attack completely surprised Japs.

6—Movement to invest and isolate Lae-Salamaua area progresses. Building areas of Koepang and Tenau on Timor damaged. In Borgen Bay, 32 Jap barges wrecked. At Kahili, 8 enemy planes destroyed.

7—In New Guinea, in Lae campaign, Jap troops are encircled. Air and ground forces trap 4 Japanese divisions and many enemy strong points are ruined. Enemy shipping bombed in Manokwari harbor. Airdromes on Bougainville attacked.

9—Cape Chater, Timor, airdrome bombed. Air and ground attacks in Lae-Salamaua campaign progress favorably. Many Jap planes shot down over Morgusai in the Solomons as well as over Darwin area, Australia.

10—Relentless pressure maintained on all Jap resistance in Lae campaign. In Dutch New Guinea, airdromes and waterfront areas bombed. Barge and supply depots attacked on Kolombangara.

11—Jap lines breaking in Lae fight. In Buin-Faisi area, heavy units bomb Kahili airdrome. On Arundel Island, Allied forces repulse attempted night barge landing.

12—Allied troops in New Guinea capture Salamaua airdrome and beat back Jap counterattacks against bridgehead over Busu River. Salamaua victory came 10 weeks after original landing at Nassau Bay.

13—Villages on Selaroe Island bombed; Cape Gloucester airdrome attacked; barge hideouts destroyed on Kolombangara coast; Jap ground units still under attack in Lae campaign. Jap planes attacked Funafuti in Ellice Islands.

14—Laha airdrome on Ambon attacked; waterfront at Macassar strafed; barges and airdromes on Gasmata bombed; in Lae campaign, town of Salamaua captured. Vila and Vanga Vanga attacked.

15—Japs completely routed at Salamaua; at Lae, Allied forces press forward. In Wewak area, airdromes at But and Dagua heavily bombed.

16—On Bougainville, 24 grounded Jap planes damaged. Allied units bomb Babo, Ambon, Langgur, and Selaroe. In Hansa Bay area, two sweeps made against enemy shipping. Jap centers of resistance being smashed one by one in Lae fight.

17—Allied ground forces converging on town of Lae. In Wewak area many Japanese fighters and bombers destroyed in raids against airfields at Dagua, Boram, and Wewak.

19—Carrier-based Army and Navy aircraft from various bases in Central and South Pacific made more than 200 sorties against Tarawa, Makin, and Apamama Islands in the northern Gilberts and Nauru Island west of Gilbert group.

20—Reconnaissance units bomb Dili on Timor. Allied aircraft operating over New Britain strike at Kimba Bay, Rein Bay, Rooke and Ritter Islands. In Finschhafen area, enemy was bombed at Heidsbach, Finsch Harbor, and Tami Islands. Fires follow raids at Kahili and Ballale. Japanese bomb Guadalcanal.

21—Ambon heavily bombed. Raids cause fires at Cape Gloucester airdrome. In New Guinea, Allied units strafe Kairi, Kamloa, and Salankaua. On Kolombangara, bombers strafe Bamberi Harbor and Parapatu Point. Jap bombers over Guadalcanal.

22—Namlea and airdromes at Dula and Langgur bombed. Gasmata, Wewak, and Boram attacked. Stubborn Jap resistance in fighting on Arundel Island. In attempted raid on Barakoma, Japs lose 15 bombers, and 5 fighters.

23—On Huon Peninsula, Allied forces push towards Finschhafen. Jap positions outflanked throughout this area.

24—Japanese lose 40 planes in Huon Peninsula fight. In Lae operation, enemy dead total 6,300. At Kahili airdrome, 8 enemy planes destroyed. Many tons of bombs dropped on airdromes at Halong, Langgur, and Cape Gloucester.

25—Airfield near Finschhafen seized in Huon Peninsula fight.

27—Allied aircraft operating over Dutch New Guinea, bomb Manokwari area, Sorong waterfront, and town of Kokas. Two Jap barges sunk off Cape Alexander. On Huon Peninsula Allied force press forward in face of sharp opposition.

29—Allied ground and air forces cooperate in capturing many positions south of Bumi River in Huon fight. Allied reconnaissance units bomb Manus Island, Gasmata, Rooke, and Munda. Ammunition storage dumps blown up on Wewak Peninsula. Over Bougainville, Allied heavy bombers successfully attacked airdrome and gun positions at Jakohina and Kangue Hill.

30—Pomela in the Celebes strafed. Allies take Kakagog Spur in Huon fight. In Choiseul area, Allied planes sank 3 loaded barges. Aircraft and ground artillery cooperate in attack on Vila positions on Kolombangara.

OCTOBER

1—Waterfront and harbor of Sorong bombed; air installations over New Britain. Allied forces close in on Finschhafen in Huon campaign.

2—After air attack by dive-bombers, Finschhafen falls into Allied hands, further imperiling Japanese stronghold of Rabaul. Air fighting over Kolombangara.

3—Tons of bombs dropped on Ambon. In operations over New Britain, Gasmata and Garilli strafed. Allied forces now have complete control of Huon Peninsula.

4—Enemy airdromes and installations in Tanimbar Islands bombed. In Huon area, our troops cross Gusar River and approach Kaigulin. Enemy planes raid Vella Lavella area.

5—Pomela in Celebes bombed. Kaigulin occupied in New Guinea. Vella Lavella again attacked by Japs. Enemy shipping bombed off coast of Bougainville.

6—Allied forces occupy key point of Vila.

7—Barges and planes destroyed in New Guinea area. Japs make futile attempt to attack Finschhafen. Enemy tries to evacuate Kolombangara Island, losing many troops to Allied air attacks on barges.

8—Ambon airdrome bombed. Operating over New Guinea, Allies strafe Wide Bay, Itue River, and Unea Island. In New Guinea, installations at Sio bombed. Jap barges sunk near Choiseul.

9—Cape Gloucester airdrome attacked. Bougainville airdrome bombed. Allied planes wreck five more barges off Choiseul.

10—Over Tanimbar, Allied planes strike Namtabung, Adaut, Larat, and Selaroe. Tokyo announcement shows that Japs now hold only Choiseul, the Shortland Islands, Bougainville, and Buka in this area.

12—Allied heavy units bomb Manokwari, Bira, and Fak Fak. Near Wewak, Allied patrol brought down 10 Jap planes. In Faisi area, Allied planes strafe Poporang and Morguisiai Islands.

13—Allied medium bombers strike at Lautem and Cape Chater. In New Britain, enemy suffers defeat at Rabaul in Allied surprise attack there. All organized enemy resistance ceases on Vella Lavella Island.

14—Allies attack Penfui airdrome and shipping in Koepang harbor. Enemy bombed in Wewak area and in Ramu Valley. Dive bombers raid Kahili airdrome.

15—Enemy barges bombed off Buka Passage in the Solomons. Cape Gloucester airdrome in New Britain damaged by raid which dropped 42 tons of bombs; Alexishafen in Madang area deluged with 32 tons of explosives which cause fires. On Timor, sharp bombing of Hansisi, Dili, and Lautem.

16—Boela and Taberfane in Aroe Islands attacked; Allied medium units drop bombs on villages from Sio to Saidor.

17—Five Jap barges sunk in John Albert Harbor, Vitu group. Strafing attack on Boram and Wewak airdromes. Enemy losses heavily in planes while trying to attack Oro Bay. Airdromes at Buka and Kahili bombed.

18—Waterfronts at Ternate and Ambon strafed. Buin area airdromes of Ballale and Kara bombed. Jap attacks frustrated in Nadzab and Oro Bay areas. In Wewak area, 15 Jap planes destroyed on the ground.

19—Six enemy barges attacked in Bougainville area. Allied bombers strike at Wissel Lakes area. At Rabaul, 6,000-ton cargo ship sunk. At Rapopo and Tobera airdromes, 36 Jap planes ruined on ground.

20—Allied ground forces north of Finschhafen repulse sharp attacks. Ballale airfield attacked. Japs incur casualties at Bogadjim in ground attack.

21—Manokwari and Sorong wharves bombed. Unea attacked in Bismarck Sea area. Fior and Palanko strafed. Kakas on Choiseul attacked.

22—Hansisi jetty attacked. Areas north of Finschhafen at Sattelberg, Wareo practically bombed flat. Ballale airdrome hit. Islands in Choiseul Bay attacked.

23—Nickel mining center at Pomela in Celebes raided. Gasmata area attacked. In New Guinea, truck column on Bogadjim road destroyed by Allied fighters. Allied ground troops decisively defeat Japanese at Katika.

25—At Kahili and Kara airdromes, 20 Jap aircraft destroyed on ground. Choiseul twice attacked. New Britain airdromes at Vunakanau, Rapopo, and Tobera bombed.

27—Trangan in Aroe group bombed. Explosives concentrated on Lakunai airdrome. Buka, Kahili, and Ballale airdromes strafed.

28—Kavieng airdrome in New Ireland bombed. Villages in New Britain strafed, Allied forces land on Treasury Island, Stirling Island also occupied—both in Bougainville area.

29—Three barges at Tiwongo Island strafed. Buka airdrome bombed from tree-top height—fires started, one auxiliary ship sunk, 200 Japs working on runway killed. Allied parachute troops make unopposed landing on southwest coast of Choiseul.

30—Selaroe airdrome in Tanimbar Islands attacked. Targets in Vitu group attacked—8 barges destroyed. On Treasury Island, Japs continue to retreat to Malsi, where they lose 12 dive-bombers in one fight. Positions consolidated on Choiseul.

31—Vunakanau airdrome near Rabaul hit with 115 tons of explosives. Enemy resists at Vagara and Voza on Choiseul. Raid on Tonolei Harbor in Bougainville area destroys 4 Jap troop-laden ships and 4 barges.

NOVEMBER

1—Kavieng and Panapei airdromes bombed. Allied right wing thrown forward 200 miles into central Bougainville. Combined ground, water, and air movement seizes Empress Augusta Bay on western coast.

2—Maniang and Pomela nickel mines bombed. Buka airdromes set on fire. Kieta and Kara air stations ruined. On Choiseul Island, Japs were defeated at Sanggai.

3—Aroe Islands and Cape Chater under Allied bombing. Destruction of enemy continues on Bougainville. Antiaircraft fire dispersed enemy bombers at Vella Lavella.

4—Boela oil center bombed. On New Guinea, Jap works bombed from Alexishafen to Madang.

Organized resistance on Mono Island has ceased.

5—Jacquinot Bay, Palmalmal Plantation and Malmal Mission in New Britain bombed. At Empress Augusta Bay, Allies consolidate positions. Allied reconnaissance reports heavy Jap reinforcements going to Rabaul.

6—In New Britain, our forces struck at Buili and Ulamona. In New Guinea, Jap defense positions bombed in upper Faria River Valley. Buka and Kahili airdromes bombed on Bougainville.

7—Ambon and Saumlakki bombed. New Britain area targets bombed at Sio and Nadzab. Fires started and coastal vessels damaged in Allied attack on Kieta on Bougainville.

8—Allied heavy bombers smash at Rabaul Barracks. Steady bombing attacks on Bougainville shipping and airdromes.

9—In Empress Augusta Bay area, Bougainville, our planes, supporting ground forces, bomb gun positions and supply areas southeast of Cape Torokina. Airfields attacked at Buka, Kieta, and Kahili.

10—Allied bombers attack Vunakanau airdrome near Rabaul. On Bougainville, many barges destroyed and ground forces wipe out Jap resistance pockets.

11—In Java, naval base at Surabaya bombed. Alexishafen airdrome attacked in New Guinea area. Our ground consolidations strengthened on Bougainville where our flyers strafe all Jap positions. Allied paratroop battalion returns after raid on Choiseul.

12—On Bougainville, our aircraft bombed Ballale and Kara airdromes and positions along Piva and Jaba Rivers. In Rabaul area, Allied heavy bombers strike at Vunakanau and Lakunai airdromes.

13—Surabaya naval base, Java, bombed; Namlea airdrome on Boeroe Island attacked. Allied aircraft strafe Tarlena, Chabai, and Soraken on Bougainville. Japs bomb Nanomea and Funafuti on Ellice Islands, causing minor damage and few casualties. U. S. Liberators raided Betio Island and Tarawa Atoll, Gilbert Islands.

14—Kaimana, Tomuka, Kaukenau, and Keaukwa, in Dutch New Guinea, bombed. Alexishaven-Madang area strafed. On Bougainville, our fighters strike at Tabut, Siar, Baniu, and Kieta. Liberators score again on Betio Island and on Mili Atoll, Marshall Islands.

15—Bonis on Bougainville heavily bombed. Troop-laden barges destroyed at Tarlena. Patrol clashes along Empress Augusta Bay. Raids made on Jaluit and Mille Atolls in Marshall Islands and on Makin Island in the Gilberts.

16—Airdromes and villages on Dutch New Guinea bombed. On Bougainville, torpedo planes attack Jap positions near Piva. In Buin-Faisi area, dive bombers drop 30 tons of explosives on Ballale airdrome. Japanese total losses at Rabaul reported as extremely heavy.

17—Dive bombers strike Kara airdrome on Bougainville. In New Guinea area, Ramu Valley the scene of many air conflicts. In Finschhafen area, Allied bombers strafe from Reiss Point to Masaweng River mouth.

18—Kaimana and Dobo attacked. Gasmata supply dump bombed. Ground forces on Bougainville steadily driving Japs out while Buka airdrome is bombed. Liberators set fires on Jaluit Atoll on Marshall Islands and batter Tarawa airfields in the Gilberts. Japs raid Funafuti in Ellice Islands.

19—In Dutch New Guinea, Allied aircraft attack Babo, Kaimana, Fak Fak, and Iworep. On Java, oil refineries at Tjeope, town of

Surabaya, and Tandjung-Perak and Denpasar airdromes bombed. On Bougainville, many tons of explosives dropped on Buka, Bonis, and Kieta. Carrier-based planes aid Army Liberators in attacks on Gilbert and Marshall Islands. Oil fires set at Jap air base on Tarawa.

20—Tussau Island, New Ireland, bombed. Rein Bay and Ketengi, New Britain, strafed. Supply and bivouac areas Kulungtufu, New Guinea, bombed. Allied heavy bombing units blast installations on Bougainville.

21—On New Guinea, barges and shore installations wrecked near Housa Bay. Kahili airdrome heavily bombed. Ground force action continues on Bougainville. Marine Corps and Army forces covered by fire from units of the Pacific fleet, establish beachheads at Makin and Tarawa in the Gilberts. Strong resistance encountered at Tarawa.

22—On Bougainville, Japs lose supplies, barges, and many troop casualties in continued Allied ground and air attacks. Stiff resistance continues on Tarawa. Landing made on Abemama in the Gilberts.

23—Ambon and Molana bombed. Kieta, Monoito, Mawaraka, Kara, Malabita, and Kangu Hill, all on Bougainville bombed. In New Britain, the Gasmata airdrome attacked. Our forces captured Makin. Marines consolidated positions on Tarawa.

24—Buka airdrome on Bougainville heavily bombed. Gasmata area in New Britain under attack. Sio area in New Guinea strafed. Tarawa captured by American troops.

25—Ground and air attacks continue on New Guinea. Mopping up operations on Tarawa, Makin, and Abemama virtually complete.

26—In New Guinea, the Wewak and Bogadjim areas were bombed. Ground troops have captured Sattelberg. On Bougainville, heavy bombing of Buka, Bonis, and Chabai. Successful invasion of Tarawa in Gilbert Islands, took greater toll of human lives to the square yard than any other engagement in the history of the Marine Corps.

27—Gasmata and Hansa Bay areas strafed. Ground forces enlarge their positions in Empress Augusta Bay area. Fighter planes sank a barge and strafed Soraken, Taiof Islands, and Tenekau.

28—On Bougainville, Allied aircraft dropped 105 tons of bombs on Buka airdromes. Arawa Bay area attacked. Ballale bombed; 2 barges sunk.

29—Wewak and Boram struck with 30 tons of explosives. On Huon Peninsula, Allied ground forces close in on Bonga. Bougainville targets bombed were: Mosigetta, Mawarka, and Mutpina. Fires started in Kieta.

30—Cape Gloucester airdrome in New Britain bombed. On New Guinea, Allied ground forces reach Bonga. On Bougainville, harbor at Tinputs and Soraken bombed. Many enemy barges destroyed.

DECEMBER

1—Airdrome at Efman Island bombed and installations strafed at MacCleur Gulf and Timika. Air units bombed Sio, Garove Island and Momote airdrome in Admiralty Group. Many tons of explosives dropped on Cape Gloucester airdrome. Alexishafen airdrome bombed heavily. Tinputs harbor strafed. Mosigetta, Koiaris, and Jaba River region attacked. Preliminary reports of Gilbert Island operations showed following casualties: At Tarawa—killed, 1,026; wounded, 2,557. At Makin—killed, 65; wounded, 121. At Abemama—killed, 1; wounded, 2.

3—Toeal in Kai Islands bombed by Allied planes. Ground forces capture Kuanko.

4—Allied planes drop 179 tons of

bombs on Cape Gloucester positions. Liberators of 7th Air Force strike at Mili Atoll; Liberators raid Nauru. Carrier task force attacked Kwajalein and Wotje Atolls.

5—Cape Gloucester airdrome bombed. Installations in Empress Augusta Bay area and near Moisuru Bay bombed.

6—Allied units bombed Kaimana in Dutch New Guinea. Attack on Rabaul. Explosives dropped on Cape Gloucester. Bombing attacks on Chabai and Bonis airdrome. Naval units cooperated in attack on Choiseul Bay installations.

8—Porpop airdrome bombed. Supply dumps strafed at Kalai Plantation. Patrols strafe Madang and Wewak. Ground forces capture Peak Hill. Pacific fleet, with carrier aircraft, attacks Nauru Island. Liberators of 7th Air Force raid enemy positions on Jaluit and Mili in the Marshalls.

9—Barges sunk in Kavieng area. Cape Gloucester coastal sector bombed. Ground forces capture Wareo. U. S. Air Force.

12—Allied bombers attack Jaluit Atoll.

13—In Arafura Sea area, reconnaissance units bomb Boela, Kokas, Larat, and Watmuri villages. Gasmata airdrome bombed. Ground forces, with tank support, cross Sowi River and advance on Lakona coast.

15—U. S. 7th Air Force raids Wotje, Marshall Islands.

16—U. S. troops land near Cape Merkus on New Britain. Cape Gloucester airdrome bombed. Air attacks by Liberators in Maloelap and Wotje Atolls in the Marshalls.

17—Ground positions won in Arawe area consolidated and attack swung to the north. Cape Gloucester heavily bombed. Lacona captured by Australians, important enemy supply base.

18—Ground positions at Arawe extended. In Buin-Faisi area, Poporang Island attacked. Ground forces sharply engaged in Empress Augusta Bay sector.

19—Seaplane base at Taberfane bombed. Fighter planes made sweep over Rabaul harbor. Ground forces on Arawe Peninsula advance to seize Umling Olu.

20—Japanese ground troops routed on Huon Peninsula, south of Musuweng River. U. S. Army heavy bombers of 7th Air Force attack Taroa. Army and Navy plane force strafe Emidj Island in Jaluit Atoll.

21—Fires started at Rabaul.

22—Allies drop 205 tons of bombs on Cape Gloucester area. Ground positions at Arawe consolidated.

24—On Huon Peninsula, Allied ground forces push along coastal coast towards Wandokai.

25—Lakunai airdrome near Rabaul bombed. Wide-spread damage by bombers over Cape Gloucester.

26—Gasmata airdrome strafed; Cape Gloucester heavily bombed. Wandokia occupied on Huon Peninsula.

27—In combined land, sea, and air attack, U. S. Marines make landings in New Britain, east and west of Cape Gloucester. Landing losses of all sorts exceptionally light. Repeated enemy air-ground attacks beaten off. Torpedo bombers strike at Buka, Bonis, the Kieta area, Torokina, and Mutupina Point.

28—At Cape Gloucester, ground forces expand their beachhead and, assisted by tanks, advance towards the airdrome. Artillery, air, and ground attacks capture important points in Ramu Valley.

29—Many Japanese planes shot down over Rabaul air base. Ground patrols clash north of Arawe. Cape Gloucester landing area expanded in face of increased opposition. Ground troops reach Blucher Point on Huon Peninsula.

30—Ground forces complete occupation of Cape Gloucester, operation lasting four days. Mili and Kwajalein in the Marshalls attacked by 7th Air Force.

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DIVISION III

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By William M. Schuyler
Editor, *The American Year Book*

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The Judge Advocate General.—Major General Myron C. Cramer.

The Quartermaster General.—Major General Edmund B. Gregory.

Chief of Finance.—Major General H. K. Loughry.

Surgeon General.—Major General N. T. Kirk.

Chief of Engineers.—Major General Eugene Reybold.

Chief of Ordnance.—Major General L. H. Campbell.

Chief Signal Officer.—Major General H. C. Ingles.

Commanding General, Army Air Forces.—Lieut. General H. H. Arnold.

Commanding General, Services of Supply.—Lieut. Gen. Brehon B. Somervell.

Chief of the National Guard Bureau.—Major General John F. Williams.

Chief of the Chemical Warfare Service.—Major General William N. Porter.

Chief of Transportation.—Major General C. P. Gross.

Provost Marshal General.—Major General Allen W. Gullion.

The Army War College.—Colonel William N. Todd, Acting Commandant.

Women's Army Corps.—Oveta Culp Hobby, Director.

DEPARTMENT OF JUSTICE

Attorney General.—Francis Biddle. Represents the United States in all legal matters.

Solicitor General.—Charles Fahy.

Assistant to the Attorney General.—James P. McGranery.

Assistant Attorneys General.—Samuel O. Clark, Francis M. Shea, Norman M. Littell, Wendell Berge, Tom C. Clark, Hugh B. Cox.

Assistant Attorney General, Division of Customs.—Paul P. Rao.

Immigration and Naturalization Service.—Earl G. Harrison, Commissioner.

Director of the Bureau of Investigation.—J. Edgar Hoover.

Director of the Bureau of Prisons.—James V. Bennett.

Director of the Bureau of War Risk Litigation.—Lester P. Schoene.

War Division.—Charles Fahy, Director.

Federal Prison Industries, Inc.—Sanford Bates, President.

Executive Assistant to the Attorney General.—Ugo Carusi.

Administrative Assistant.—John Q. Cannon.

General Agent.—E. R. Butts.

Chief Clerk.—Harvey C. Donaldson.

Appointment Clerk.—Nellie G. Plumley.

Chief of the Division of Records.—Armando di Girolamo.

Chief of the Division of Supplies and Printing.—John W. Adler.

Librarian.—Matthew A. McKavitt.

Pardon Attorney.—Daniel M. Lyons.

Board of Parole.—Arthur D. Wood, T. Webber Wilson, Edward P. Reidy.

POST OFFICE DEPARTMENT

Postmaster General.—Frank C. Walker.

Executive Assistant to the Postmaster General.—William F. Cronin.

Special Assistants to the Postmaster General.—Forest J. Hall and Chauncey Tramutolo.

First Assistant Postmaster General.—Kildroy P. Aldrich.

Second Assistant Postmaster General.—Smith W. Purdum.

Third Assistant Postmaster General.—Ramsey S. Black.

Fourth Assistant Postmaster General.—Walter Myers.

Director of Parcel Post.—Jesse C. Harraman.

Solicitor.—Vincent M. Miles.

Chief Post Office Inspector.—Jesse M. Donaldson.

Superintendent of Air Mail Service.—Roy M. Martin.

Bureau of Accounts.—Comptroller, John J. Haggerty.

DEPARTMENT OF THE NAVY

Secretary of the Navy.—Frank Knox.

Under Secretary of the Navy.—James V. Forrestal.

Assistant Secretary of the Navy.—Ralph A. Bard.

Assistant Secretary of the Navy for Air.—Artemus L. Gates.

Special Assistants to the Secretary of the Navy.—Adlai E. Stevenson, Joseph W. Powell, Dr. Joseph W. Barker, Frank E. Mason, R. Keith Kane, George F. Olsen, Jr.

Budget Officer.—Rear Admiral Ezra G. Allen.

Director of Shore Establishments.—Rear Admiral C. W. Fisher.

Commander in Chief, United States Fleet, and Chief of Naval Operations.—Admiral Ernest J. King.

Coast Guard.—Rear Admiral Russell R. Waesche, Commandant.

Chief of Naval Personnel.—Rear Admiral Randall Jacobs.

Chief of the Bureau of Yards and Docks.—Rear Admiral Ben Moreell.

Chief of the Bureau of Ordnance.—Rear Admiral W. H. P. Blandy.

Chief of the Bureau of Ships.—Rear Admiral Edward L. Cochrane.

Chief of the Bureau of Supplies and Accounts.—Rear Admiral W. B. Young, Paymaster General of the Navy.

Chief of the Bureau of Medicine and Surgery.—Rear Admiral Ross T. McIntire, Surgeon General.

Chief of the Bureau of Aeronautics.—Rear Admiral D. C. Ramsay.

Judge Advocate General.—Rear Admiral T. L. Gatch.

Naval Consulting Board. — Thomas Robins, Secretary.

Lend-Lease Liaison Office.—Admiral J. M. Reeves.

Compensation Board.—Captain E. G. Kintner, Senior Member.

General Board.—Admiral A. J. Hepburn, Chairman.

Interior Control Board.—Captain Vance D. Chapline, Senior Member.

President of the Board of Medical Examiners.—Rear Admiral Benjamin H. Dorsey.

President of the Naval Examining Board.—Rear Admiral Benjamin H. Dorsey.

President of the Naval Retiring Board.—Rear Admiral Benjamin H. Dorsey.

Naval Dispensary.—Captain Richard A. Warner, Medical Corps.

Navy Yard and Station, Washington, D. C.—Rear Admiral F. L. Reichmuth, Commandant.

Naval Research Laboratory.—Rear Admiral A. H. Van Keuren, Director.

Naval Air Station.—Captain S. H. Ingersoll.

Naval Medical Center.—Rear Admiral C. W. O. Bunker, commanding officer.

Naval Medical School.—Captain Paul W. Wilson.

Naval Dental School.—Captain Arthur H. Yando, commanding officer.

Naval Hospital.—Captain John Harper.

Naval Medical Research Institute.—Captain W. L. Mann, Jr., commanding officer.

President of the Board for Examination of Medical Officers.—Captain Paul W. Wilson.

President of the Board of Examination of Dental Officers.—Captain Paul W. Wilson.

Headquarters Marine Corps.—Lieut. General Thomas Holcomb, Commandant.

Naval Examining Board (Marine Corps).—Brig. Gen. Walter N. Hill, President.

Marine Barracks.—Colonel John Potts, commanding.

DEPARTMENT OF THE INTERIOR

Secretary of the Interior.—Harold L. Ickes.

Charged with pensions, public lands, Indian Affairs, geological surveys, reclamation of arid lands, and mines.

Under Secretary.—Vacant.

First Assistant Secretary.—Michael W. Straus.

Assistant Secretary.—Oscar L. Chapman.

Special Assistants to the Secretary.—William H. McCrillis, James V. McClintic, Walter Gellhorn.

Assistants to the Secretary.—George N. Briggs, Mae A. Schnurr.

Assistant to the Secretary in Charge of Land Utilization.—Lee Muck.

Chief Clerk.—Floyd E. Dotson.

Solicitor.—Fowler V. Harper.

Director of Classification.—John Harvey.

Commissioner of the General Land Office.—Fred W. Johnson.

Fish and Wildlife Service.—Ira N. Gabrielson, Director.

Commissioner of the Office of Indian Affairs.—John Collier.

Indian Arts and Crafts Board.—John Collier, Chairman.

Director of the Geological Survey.—William Embry Wrather.

Commissioner of the Bureau of Reclamation.—Harry W. Bashore.

Director of the National Park Service.—Newton B. Drury.

Director of the Bureau of Mines.—R. R. Sayers.

Division of Territories and Island Possessions.—Benjamin W. Thoron.

Territorial Officials.—

Alaska—Ernest Gruening, Governor.

Hawaii—Ingram M. Stainback, Governor.

Virgin Islands—Charles Harwood, Governor.

Puerto Rico—Rexford G. Tugwell, Governor.

Puerto Rico Reconstruction Administration.—Benjamin W. Thoron, Administrator.

The Alaska Railroad.—Otto F. Ohlson, General Manager.

Petroleum Administration for War.—Harold L. Ickes, Administrator.

Petroleum Conservation Division.—Jack W. Steele, Acting Director.

Petroleum Reserves Corporation.—Harold L. Ickes.

Solid Fuels Administration for War.—Harold L. Ickes.

Coal Mines Administration.—Harold L. Ickes, Administrator.

Director of Grazing.—R. H. Rutledge.

Bituminous Coal Division.—Dan H. Wheeler, Director.

National Power Policy Committee.—Harold L. Ickes, Chairman.

DEPARTMENT OF AGRICULTURE

Secretary of Agriculture.—Claude R. Wickard.

Under Secretary.—Paul H. Appleby.

Assistant Secretary.—Grover B. Hill.

Assistants to the Secretary.—Carl Hamilton, Thomas J. Flavin, Robert L. Webster, Stanley P. Williams, Seth D. Sims.

Special Assistant to the Secretary.—William Parker.

Agricultural Conservation and Adjustment Administration.—M. Clifford Townsend, Administrator.

Agricultural Marketing Administration.—Roy F. Hendrickson, Administrator.

Director of Extension Service.—Milburn L. Wilson.

Agricultural Research Administration.—E. C. Auchter, Administrator.

Director of Personnel.—T. Roy Reid.

Director of Information.—Morse Salisbury.

Land Use Coordinator.—E. H. Wiecking.

Director of Finance and Budget Officer.—W. A. Jump.

Officer of Plant and Operations.—Arthur B. Thatcher, Chief.

Office for Agricultural War Relations.—Samuel B. Bledsoe, Director.

Sugar Agency.—Joshua Bernhardt, Chief.

Solicitor.—Robert H. Shields.

Librarian.—Ralph R. Shaw.

Office of Civilian Conservation Corps Activities.—Fred Morrell, Chief.

Office of Experiment Stations.—James T. Jardine, Chief.

Office of Foreign Agricultural Relations.—Leslie A. Wheeler, Director.

Bureau of Animal Industry.—A. W. Miller, Chief.

Bureau of Dairy Industry.—O. E. Reed, Chief.

Bureau of Plant Industry, Soils and Agricultural Engineering.—R. M. Salter, Chief.

Forest Service.—L. F. Watts, Chief.

Bureau of Agricultural and Industrial Chemistry.—W. W. Skinner, Chief.

Bureau of Agricultural Economics.—Howard R. Tolley, Chief.

Office of Foreign Agricultural Relations.—Leslie A. Wheeler, Director.

Bureau of Entomology and Plant Quarantine.—P. N. Annand, Chief.

Bureau of Agricultural Economics.—Howard R. Tolley, Chief.

Bureau of Human Nutrition and Home Economics.—Henry C. Sherman, Chief.

Commodity Credit Corporation.—J. B. Hutson, President.

Soil Conservation Service.—H. H. Bennett, Chief.

Farm Security Administration.—Franklin W. Hancock, Administrator.

Farm Credit Administration.—A G. Black, Governor.

Food Production Administration.—J. B. Hutson, Director.

Federal Farm Mortgage Corporation.—A. G. Black, Chairman.

Economic Adviser.—Mordecai J. B. Ezekiel.

Federal Crop Insurance Corporation.—Leroy K. Smith, Chairman.

Agricultural Adjustment Agency.—Norris E. Dodd, Chief.

Rural Electrification Administration.—Harry Slattery, Administrator.

DEPARTMENT OF COMMERCE

Secretary of Commerce.—Jesse H. Jones.

Under Secretary.—Wayne C. Taylor.

Assistant Secretary.—William L. Clayton.

Special Aviation Assistant to the Secretary.—W. A. M. Burden.

Assistants to the Secretary.—Norman W. Baxter, James W. Bryan, Howard H. McClure.

Administrative Assistant to the Secretary.—Malcolm Kerlin.

Solicitor.—South Trimble, Jr.

Chief Clerk and Superintendent.—Gerald Ryan.

Chief of Division of Budget and Accounts.—Richard A. Spencer.

Chief of Division of Publications.—G. Richard Koonce.

Chief of Division of Purchases and Sales.—Walter S. Erwin.

Librarian.—Charlotte L. Carmody.

Director of the Bureau of The Census.—James C. Capt.

Civil Aeronautics Administration.—Charles I. Stanton, Administrator.

Civil Aeronautics Board.—L. Welch Pogue, Chairman.

Director of the Bureau of Foreign and Domestic Commerce.—Amos E. Taylor.

Director of the National Bureau of Standards.—Lyman J. Briggs.

Director of the Coast and Geodetic Survey.—Rear Admiral L. O. Colbert.

Commissioner of the Patent Office.—Conway P. Coe.

Inland Waterways Corporation.—Chester C. Thompson, President-Chairman.

Weather Bureau.—Francis W. Reichelderfer, Chief.

National Inventors' Council.—Charles F. Kettering, Chairman.

Government Activities Directed by the Secretary of Commerce:

Reconstruction Finance Corporation

Defense Plant Corporation
Defense Supplies Corporation
Metals Reserve Company
Rubber Reserve Company
RFC Mortgage Company
Federal National Mortgage Association
Disaster Loan Corporation
War Damage Corporation

DEPARTMENT OF LABOR

Secretary of Labor.—Frances Perkins.

Charged with the duty of fostering, promoting and developing the welfare of the wage earners of the United States and also working towards a solution of labor problems.

Administrative Assistant to the Secretary.—Frances Jurkowitz.

The Assistant Secretary.—Daniel W. Tracy.

Second Assistant Secretary.—(Vacant).

Special Assistant to the Secretary.—Mary La Dame.

Solicitor.—Douglas B. Maggs.

Chief Clerk and Budget Officer.—James E. Dodson.

Director of Information.—J. V. Fitzgerald.

Director of Conciliation.—John R. Steelman.

Director of Labor Standards.—Verne A. Zimmer.

Commissioner of Labor Statistics.—Isador Lubin.

Chief of the Children's Bureau.—Katharine F. Lenroot.

Director of the Women's Bureau.—Mary Anderson.

Wage and Hour and Public Contracts Division.—L. Metcalfe Walling, Administrator.

MISCELLANEOUS EXECUTIVE SERVICES

Civil Service Commission.—Harry B. Mitchell, President; Mrs. Lucille F. McMillin, Arthur S. Flemming.

Interstate Commerce Commission.—J. Haden Alldredge, Chairman; Clyde B. Aitchison, Joseph B. Eastman, Claude R. Porter, William E. Lee, Charles D. Mahaffie, Walter M. W. Splawn, Carroll Miller, John L. Rogers, William J. Patterson, J. Monroe Johnson.

United States Employees' Compensation Commission.—Mrs. Jewell W. Swofford, Chairman; Albert H. Ladner, Jr. and John J. Keegan.

General Accounting Office.—Lindsay C. Warren, Comptroller General of the United States.

Federal Reserve Board.—Marriner S. Eccles, Chairman; Ronald Ramson, Vice Chairman; M. S. Szymczak, John K. McKee, Ernest G. Draper, and Rudolph M. Evans.

Federal Trade Commission.—Robert E. Freer, Chairman; Garland S. Ferguson, Ewin L. Davis, William A. Ayres, Charles H. March; Otis B. Johnson, Secretary.

United States Tariff Commission.—Oscar B. Ryder, Chairman; Lynn R. Edminster, Vice Chairman; Edgar B. Brossard, E. Dana Durand; Sidney Morgan, Secretary.

National Housing Agency.—John B. Blandford, Jr., Administrator.

Federal Housing Administration.—Abner H. Ferguson, Commissioner.

Federal Public Housing Authority.—Herbert Enunerich, Commissioner.

Federal Home Loan Bank Administration.—John H. Fahey, Commissioner.

Foreign Trade Zones Board.—Jesse H. Jones, Chairman.

Federal Power Commission.—Leland Olds, Chairman; Basil Manly, Vice Chairman; Claude L. Draper, John W. Scott, Nelson Lee Smith.

Federal Communications Commission.—James Lawrence Fly, Chairman.

Veterans' Administration.—Brigadier General Frank T. Hines, Administrator.

Federal Board of Hospitalization.—Brigadier General Frank T. Hines, Chairman.

United States Joint Chiefs of Staff.—Captain Forrest B. Royal, Secretary.

The Army and Navy Munitions Board.—Auguste Richard, Chairman.

The Joint Economy Board.—Jarvis Butler, Secretary.

United States Maritime Commission.—Rear Admiral Emory S. Land, Chairman.

National Munitions Control Board.—Joseph C. Green, Executive Secretary.

Governor of the Panama Canal.—Brigadier General Glen E. Edgerton.

National Labor Relations Board.—H. A. Millis, Chairman.

National Advisory Committee for Aeronautics.—Dr. Jerome C. Hunsaker, Chairman.

The Commission of Fine Arts.—Gilmore D. Clarke, Chairman.

National Mediation Board.—William M. Leiserson, Chairman.

National Capital Park and Planning Commission.—Gen. U. S. Grant 3rd, Chairman.

Smithsonian Institution.—

Established 1846 under the terms of the will of James Smithson for the "increase and diffusion of knowledge among men." The former aim is accomplished by the promoting of original, scientific research, and the latter by publications and lectures. The affairs of the institution are managed by a Board of Regents which co-operates with the Government and with National scientific bodies. Under the direction of the Institution are the National Museum, charged with preserving and utilizing objects of art and ethnological, geological and mineralogical collections belonging to the United States; Bureau of American Ethnology, National Gallery of Art, Freer Gallery of Art, National Zoological Park, Astrophysical Observatory, and the Regional Bureau for the United States International Catalogue of Scientific Literatures.

National Gallery of Art.—David K. E. Bruce, President; C. G. Abbot, Secretary.

National Academy of Sciences.—Frank B. Jewett, President; Isaiah Bowman, Vice President; Frederick E. Wright, Home Secretary; Walter B. Cannon, Foreign Secretary.

Pan American Union.—L. S. Rowe, Director General.

American National Red Cross.—Norman H. Davis, Chairman.

Permanent Joint Board on Defense.—F. H. La Guardia, Chairman.

Securities and Exchange Commission.—Ganson Purcell, Chairman.

Tennessee Valley Authority.—David E. Lilienthal, Chairman; Harcourt A. Morgan, James P. Pope.

Federal Deposit Insurance Corporation.—Leo T. Crowley, Chairman.

National Labor Relations Board.—H. A. Millis, Chairman.

Railroad Retirement Board.—Murray W. Latimer, Chairman.

The National Archives.—Solon J. Buck, Archivist.

Federal Security Agency.—Paul V. McNutt, Administrator.

- Social Security Board—Arthur J. Altmeyer, Chairman.
- Public Health Service—Thomas Parran, Surgeon General.
- U. S. Office of Education—John W. Studebaker, Commissioner.
- Federal Advisory Board for Vocational Education—Robert Watt, Chairman.
- Food and Drug Administration—W. G. Campbell, Administrator.

Federal Works Agency.—Major Gen. Philip B. Fleming, Administrator.

- Public Roads Administration—Thomas H. MacDonald, Commissioner.
- Public Buildings Administration—W. E. Reynolds, Commissioner.
- Federal Fire Council—W. E. Reynolds, Chairman.

III. THE NATIONAL GOVERNMENT

MEMBERS OF THE SENATE

COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1944

(Dates show beginning of service in the Senate. Names of Republicans are in Roman type; those of Democrats in *Italic;* Farmer Labor in ROMAN CAPS; Progressive in SMALL CAPS.

ALABAMA

John H. Bankhead, 2d (1931).
Lister Hill (1938).

ARIZONA

Carl Hayden (1927).
Ernest W. McFarland (1940).

ARKANSAS

H. W. Caraway (1931).
John L. McClellan (1943).

CALIFORNIA

Hiram W. Johnson (1917).
Sheridan Downey (1938).

COLORADO

Edwin C. Johnson (1936).
Eugene D. Millikin (1943).

CONNECTICUT

Francis T. Maloney (1935).
John A. Danaher (1938).

DELAWARE

James M. Tunnell (1940).
C. Douglass Buck (1943).

FLORIDA

Charles O. Andrews (1936).
Claude Pepper (1936).

GEORGIA

Walter F. George (1922).
Richard B. Russell (1933).

IDAHO

D. Worth Clark (1938).
John Thomas (1940).

ILLINOIS

Scott W. Lucas (1938).
C. Wayland Brooks (1940).

INDIANA

Frederick Van Nuys (1933).
Raymond E. Willis (1940).

IOWA

Guy M. Gillette (1936).
George A. Wilson (1943).

KANSAS

Arthur Capper (1919).
Clyde M. Reed (1938).

KENTUCKY

Alben W. Barkley (1927).
A. B. Chandler (1939).

LOUISIANA

John H. Overton (1933).
Allen J. Ellender (1936).

MAINE

Wallace H. White, Jr. (1931).
Ralph O. Brewster (1940).

MARYLAND

Millard E. Tydings (1927).
George L. Radcliffe (1935).

MASSACHUSETTS

David I. Walsh (1926).
Henry Cabot Lodge, Jr. (1936).

MICHIGAN

Arthur H. Vandenberg (1928).
Homer Ferguson (1943).

MINNESOTA

Henrik Shipstead (1923).
Joseph H. Ball (1940).

MISSISSIPPI

Theodore G. Bilbo (1935).
James O. Eastland (1943).

MISSOURI

Bennett C. Clark (1933).
Harry S. Truman (1935).

MONTANA

Burton K. Wheeler (1923).
James E. Murray (1935).

NEBRASKA

Hugh A. Butler (1943).
Kenneth S. Wherry (1943).

NEVADA

Patrick McCarran (1932).
James G. Scrugham (1943).

NEW HAMPSHIRE

Styles Bridges (1936).
Charles W. Tobey (1938).

NEW JERSEY

Albert W. Hawkes (1943).
Arthur Walsh (1944).

NEW MEXICO

Carl A. Hatch (1934).
Dennis Chavez (1935).

NEW YORK

Robert F. Wagner (1927).
James M. Mead (1938).

NORTH CAROLINA

Josiah W. Bailey (1931).
Robert R. Reynolds (1932).

NORTH DAKOTA

Gerald P. Nye (1925).
William Langer (1940).

OHIO

Robert A. Taft (1938).
Harold H. Burton (1940).

OKLAHOMA

Elmer Thomas (1927).
E. H Moore (1943).

OREGON

Charles L. McNary (1918).
Rufus C. Holman (1938).

PENNSYLVANIA

James J. Davis (1931).
Joseph F. Guffey (1935).

RHODE ISLAND

Peter G. Gerry (1935).
Theodore F. Green (1936).

SOUTH CAROLINA

Ellison D. Smith (1909).
Burnet R. Maybank (1941).

SOUTH DAKOTA

Chan Gurney (1938).
Harlan J. Bushfield (1943).

TENNESSEE

Kenneth McKellar (1917).
Tom Stewart (1938).

TEXAS

Tom Connally (1929).
W. Lee O'Daniel (1941).

UTAH

Elbert D. Thomas (1933).
Abe Murdock (1940).

VERMONT

Warren R. Austin (1931).
George D. Aiken (1940).

VIRGINIA

Carter Glass (1920).
Harry F. Byrd (1933).

WASHINGTON

Homer T. Bone (1933).
Mon C. Wallgren (1940).

WEST VIRGINIA

Harley M. Kilgore (1940).
Chapman Revercomb (1943).

WISCONSIN

ROBERT M. LA FOLLETTE, JR. (1925).
Alexander Wiley (1938).

WYOMING

Joseph C. O'Mahoney (1933).
Edward V. Robertson (1943).

MEMBERS OF THE HOUSE OF REPRESENTATIVES

COMPILED FROM THE CONGRESSIONAL DIRECTORY, YEAR, 1944

(Dates show beginning of service in the House. Names of Republicans are in Roman type; those of Democrats in *Italic;* Farmer Labor in ROMAN CAPS; Progressive in SMALL CAPS.

ALABAMA

1. *Frank W. Boykin* (1935).
2. *George M. Grant* (1938).
3. Vacant.
4. *Sam Hobbs* (1935).
5. *Joe Starnes* (1935).
6. *Pete Jarman* (1936).
7. *Carter Manasco* (1941).
8. *John J. Sparkman* (1936).
9. *John P. Newsome* (1943).

ARIZONA

At Large—*John R. Murdock* (1936).
Richard F. Harless (1943).

ARKANSAS

1. *E. C. Gathings* (1938).
2. *Wilbur D. Mills* (1938).
3. *J. W. Fulbright* (1943).
4. *Fadjo Cravens* (1939).
5. *Brooks Hays* (1943).
6. *W. F. Norrell* (1938).
7. *Oren Harris* (1940).

CALIFORNIA

1. *Clarence F. Lea* (1917).
2. *Clair Engle* (1944).
3. J. Leroy Johnson (1943).
4. Thomas Rolph (1940).
5. Richard J. Welch (1925).
6. Albert E. Carter (1925).
7. *John H. Tolan* (1935).
8. John Z. Anderson (1938).
9. Bertrand W. Gearhart (1935).
10. *Alfred J. Elliott* (1937).
11. *George E. Outland* (1943).
12. *Jerry Voorhis* (1936).
13. Norris Poulson (1943).
14. *Thomas F. Ford* (1933).
15. *John M. Costello* (1935).
16. *Will Rogers, Jr.* (1943).
17. *Cecil R. King* (1943).
18. Ward Johnson (1940).
19. *Chet Holifield* (1943).
20. Carl Hinshaw (1943).
21. *Harry R. Sheppard* (1936).
22. John Phillips (1943).
23. *Ed. V. Izac* (1936).

COLORADO

1. Vacant.
2. William S. Hill (1940).
3. J. Edgar Chenoweth (1940).
4. Robert F. Rockwell (1941).

CONNECTICUT

At Large—B. J. Monkiewicz (1943).
1. William J. Miller (1943).
2. John D. McWilliams (1943).
3. Ranulf Compton (1943).
4. Clare Boothe Luce (1943).
5. Joseph E. Talbot (1943).

DELAWARE

At Large—Earle D. Willey (1943).

FLORIDA

At Large—*Lex Green* (1944).
1. *Hardin Petersen* (1933).
2. *Emory H. Price* (1943).
3. *Robert L. F. Sikes* (1940).
4. *Pat Cannon* (1938).
5. *Joe Hendricks* (1936).

GEORGIA

1. *Hugh Peterson* (1935).
2. *E. E. Cox* (1925).
3. *Stephen Pace* (1936).
4. *A. Sidney Camp* (1939).
5. *Robert Ramspeck* (1929).
6. *Carl Vinson* (1914).
7. *Malcolm C. Tarver* (1927).
8. *John S. Gibson* (1940).
9. *B. Frank Whelchel* (1935).
10. *Paul Brown* (1933).

IDAHO

1. *Compton I. White* (1933).
2. Henry C. Dworshak (1938).

ILLINOIS

At Large—Stephen A. Day (1940).
1. *William L. Dawson* (1943).
2. *William A. Rowan* (1943).
3. Fred E. Busbey (1943).
4. *Martin Gorski* (1943).
5. *Adolph J. Sabath* (1907).
6. *Thomas J. O'Brien* (1943).
7. *Leonard W. Schuetz* (1931).
8. *Thomas S. Gordon* (1943).
9. Charles S. Dewey (1940).
10. Ralph E. Church (1943).
11. Chauncey W. Reed (1935).
12. Noah M. Mason (1936).
13. Leo E. Allen (1933).
14. Anton J. Johnson (1938).
15. Robert B. Chiperfield (1938).
16. Everett M. Dirksen (1933).
17. Leslie C. Arends (1935).
18. Jessie Sumner (1938).
19. William H. Wheat (1938).
20. Sid Simpson (1943).
21. Evan Howell (1940).
22. Calvin D. Johnson (1943).
23. Charles W. Vursell (1943).
24. James V. Heidinger (1940).
25. C. W. (Runt) Bishop (1940).

INDIANA

1. *Ray J. Madden* (1943).
2. Charles A. Halleck (1935).
3. Robert A. Grant (1938).
4. George W. Gillie (1938).
5. Forest A. Harness (1938).
6. Noble J. Johnson (1938).
7. Gerald W. Landis (1938).
8. Charles M. La Follette (1943).
9. Earl Wilson (1940).
10. Raymond S. Springer (1938).
11. *Louis Ludlow* (1929).

IOWA

1. Thomas E. Martin (1938).
2. H. O. Talle (1938).
3. John W. Gwynne (1935).
4. Karl M. Le Compte (1938).
5. Paul Cunningham (1940).
6. Fred G. Gilchrist (1931).
7. Ben F. Jensen (1938).
8. Charles B. Hoeven (1943).

KANSAS

1. W. P. Lambertson (1929).
2. Errett P. Scrivner (1943).
3. Thomas D. Winter (1938).
4. Edward H. Rees (1936).
5. Clifford R. Hope (1926).
6. Frank Carlson (1935).

KENTUCKY

1. *Noble J. Gregory* (1936).
2. *Beverly M. Vincent* (1937).
3. *Emmet O'Neal* (1935).
4. Chester O. Carrier (1944).
5. *Brent Spence* (1931).
6. *Virgil Chapman* (1931).
7. *Andrew J. May* (1931).
8. *Joe B. Bates* (1938).
9. John M. Robsion (1935).

LOUISIANA

1. *F. Edward Hébert* (1940).
2. *Paul H. Maloney* (1943).
3. *James Domengeaux* (1940).
4. *Overton Brooks* (1936).
5. *Charles E. McKenzie* (1943).
6. *James H. Morrison* (1943).
7. *Henry D. Larcade, Jr.* (1943).
8. *A. Leonard Allen* (1936).

MAINE

1. Robert Hale (1943).
2. Margaret Chase Smith (1940).
3. Frank Fellows (1940).

MARYLAND

1. *David J. Ward* (1939).
2. *H. Street Baldwin* (1943).
3. *Thomas D'Alesandro, Jr.* (1938).
4. Daniel Ellison (1943).
5. *Lansdale G. Sasscer* (1939).
6. J. Glenn Beall (1943).

MASSACHUSETTS

1. A. T. Treadway (1913).
2. Charles R. Clason (1936).
3. *Philip J. Philbin* (1943).
4. Pehr G. Holmes (1931).

5. Edith N. Rogers (1925).
6. George J. Bates (1936).
7. *Thomas J. Lane* (1943).
8. Angier L. Goodwin (1943).
9. Charles L. Gifford (1922).
10. Christian A. Herter (1943).
11. *James M. Curley* (1943).
12. *J. W. McCormack* (1928).
13. R. B. Wigglesworth (1928).
14. J. W. Martin, Jr. (1925).

MICHIGAN

1. *George G. Sadowski* (1943).
2. Earl C. Michener (1935).
3. Paul W. Shafer (1936).
4. Clare E. Hoffman (1935).
5. Bartel J. Jonkman (1940).
6. William W. Blackney (1938).
7. Jesse P. Wolcott (1931).
8. Fred L. Crawford (1935).
9. Albert J. Engel (1935).
10. Roy O. Woodruff (1921).
11. Fred Bradley (1938).
12. John B. Bennett (1943).
13. *George D. O'Brien* (1940).
14. *Louis C. Rabaut* (1935).
15. *John D. Dingell* (1933).
16. *John Lesinski* (1933).
17. George A. Dondero (1933).

MINNESOTA

1. August H. Andresen (1935).
2. Joseph P. O'Hara (1940).
3. Richard P. Gale (1940).
4. Melvin J. Maas (1935).
5. Walter H. Judd (1943).
6. Harold Knutson (1917).
7. H. Carl Andersen (1938).
8. William A. Pittenger (1938).
9. HAROLD C. HAGEN (1943).

MISSISSIPPI

1. *John E. Rankin* (1921).
2. *Jamie L. Whitten* (1941).
3. *W. M. Whittington* (1925).
4. *Thomas G. Abernethy* (1943).
5. *Arthur Winstead* (1943).
6. *William M. Colmer* (1933).
7. *Dan R. McGehee* (1935).

MISSOURI

1. Wat Arnold (1943).
2. Max Schwabe (1943).
3. William C. Cole (1943).
4. *C. Jasper Bell* (1935).
5. *Roger C. Slaughter* (1943).
6. Marion T. Bennett (1944).
7. Dewey Short (1935).
8. William P. Elmer (1943).
9. *Clarence Cannon* (1923).
10. *Orville Zimmerman* (1935).
11. Louis E. Miller (1943).
12. Walter C. Ploeser (1940).
13. *John J. Cochran* (1927).

MONTANA

1. *Mike Mansfield* (1943).
2. *James F. O'Connor* (1936).

NEBRASKA

1. Carl T. Curtis (1943).
2. Howard H. Buffett (1943).
3. Karl Stefan (1935).
4. A. L. Miller (1943).

NEVADA

At Large—*Maurice J. Sullivan* (1943).

NEW HAMPSHIRE

1. Chester E. Merrow (1943).
2. Foster Stearns (1938).

NEW JERSEY

1. C. A. Wolverton (1926).
2. *Elmer H. Wene* (1940).
3. James C. Auchincloss (1943).
4. D. Lane Powers (1933).
5. Charles A. Eaton (1925).
6. Donald H. McLean (1933).
7. J. Parnell Thomas (1936).
8. Gordon Canfield (1940).
9. Harry L. Towe (1943).
10. F. A. Hartley, Jr. (1929).
11. Frank L. Sundstrom (1943).
12. Robert W. Kean (1938).
13. *Mary T. Norton* (1925).
14. *Edward J. Hart* (1935).

NEW MEXICO

At Large—*Clinton P. Anderson* (1940).
Antonio M. Fernandez (1943).

NEW YORK

At Large—*Matthew J. Merritt* (1935).
Winifred C. Stanley (1943).

1. Leonard W. Hall (1938).
2. *W. B. Barry* (1935).
3. *Joseph L. Pfeifer* (1935).
4. *Thomas H. Cullen* (1919).
5. *James J. Heffernan* (1940).
6. *Andrew L. Somers* (1925).
7. *John J. Delaney* (1931).
8. *Donald L. O'Toole* (1936).
9. *Eugene J. Keogh* (1936).
10. *Emanuel Celler* (1923).
11. *James A. O'Leary* (1935).
12. *Samuel Dickstein* (1923).
13. *Louis J. Capozzoli* (1940).
14. *Arthur G. Klein* (1941).
15. *Thomas F. Burchill* (1943).
16. *James H. Fay* (1943).
17. Joseph Clark Baldwin (1941).
18. *M. J. Kennedy* (1930).
19. *Sol Bloom* (1923).
20. VITO MARCANTONIO (1938).
21. *J. A. Gavagan* (1929).
22. *Walter A. Lynch* (1940).
23. *Charles A. Buckley* (1935).
24. *J. M. Fitzpatrick* (1926).
25. Ralph A. Gamble (1937).
26. Hamilton Fish (1920).
27. Jay LeFevre (1943).
28. *William T. Byrne* (1936).
29. Dean P. Taylor (1943).
30. Bernard W. Kearney (1943).
31. Clarence E. Kilburn (1940).
32. Hadwen C. Fuller (1944).
33. Fred J. Douglas (1936).
34. Edwin Arthur Hall (1939).
35. C. E. Hancock (1927).
36. John Taber (1923).
37. W. Sterling Cole (1935).
38. Joseph J. O'Brien (1938).
39. James W. Wadsworth (1933).
40. Walter G. Andrews (1931).
41. Joseph Mruk (1943).
42. John C. Butler (1941).
43. Daniel A. Reed (1919).

NORTH CAROLINA

1. *Herbert C. Bonner* (1940).
2. *John H. Kerr* (1923).
3. *Graham A. Barden* (1935).
4. *Harold D. Cooley* (1935).
5. *John H. Folger* (1941).
6. *Carl T. Durham* (1938).
7. *J. Bayard Clark* (1929).
8. *W. O. Burgin* (1938).
9. *R. L. Doughton* (1911).
10. *Cameron Morrison* (1943).
11. *Alfred L. Bulwinkle* (1931).
12. *Zebulon Weaver* (1931).

NORTH DAKOTA

At Large—Usher L. Burdick (1935).
William Lemke (1943).

OHIO

At Large—George H. Bender (1938).

1. Charles H. Elston (1938).
2. William E. Hess (1938)
3. Harry P. Jeffrey (1943).
4. Robert F. Jones (1938).
5. Cliff Clevenger (1938).
6. Edward O. McCowen (1943).
7. Clarence J. Brown (1938).
8. Frederick C. Smith (1938).
9. Homer A. Ramey (1943).
10. T. A. Jenkins (1925).
11. Walter E. Brehm (1943).
12. John M. Vorys (1938).
13. Alvin F. Weichel (1943).
14. Ed Rowe (1943).
15. P. W. Griffiths (1943).
16. Henderson H. Carson (1943).
17. J. Harry McGregor (1940).
18. Earl R. Lewis (1943).
19. *Michael J. Kirwan* (1936).
20. *Michael A. Feighan* (1943).
21. *Robert Crosser* (1923).
22. Frances P. Bolton (1940).

OKLAHOMA

1. *Wesley E. Disney* (1931).
2. Vacant.
3. *Paul Stewart* (1943).
4. *Lyle H. Boren* (1936).
5. *A. S. Mike Monroney* (1938).
6. *Jed Johnson* (1926).
7. *Victor Wickersham* (1941).
8. Ross Rizley (1940).

OREGON

1. James W. Mott (1933).
2. Lowell Stockman (1943).
3. Homer D. Angell (1938).
4. Harris Ellsworth (1943).

PENNSYLVANIA

At Large—William I. Troutman (1943).

1. James Gallagher, Sr. (1943).
2. Vacant.
3. *Michael J. Bradley* (1936).
4. *John Edward Sheridan* (1939).
5. C. Frederick Pracht (1943).
6. *Francis J. Myers* (1938).
7. Hugh D. Scott, Jr. (1940).
8. James Wolfenden (1928).

9. Charles L. Gerlach (1938).
10. J. R. Kinzer (1930).
11. *John W. Murphy* (1943).
12. Thomas Byron Miller (1943).
13. Ivor D. Fenton (1938).
14. *Daniel K. Hoch* (1943).
15. Wilson D. Gillette (1941).
16. *Thomas E. Scanlon* (1943).
17. Vacant.
18. Richard M. Simpson (1937).
19. John C. Kunkel (1938).
20. Leon H. Gavin (1943).
21. *Francis E. Walter* (1933).
22. Chester H. Gross (1943).
23. D. Emmert Brumbaugh (1944).
24. *J. Buell Snyder* (1933).
25. *Grant Furlong* (1943).
26. Louis E. Graham (1938).
27. Harve Tibbott (1938).
28. *Augustine B. Kelley* (1941).
29. Robert L. Rodgers (1938).
30. *Samuel A. Weiss* (1940).
31. *Herman P. Eberharter* (1936).
32. *James A. Wright* (1940).

RHODE ISLAND

1. *Aime J. Forand* (1940).
2. *John E. Fogarty* (1940).

SOUTH CAROLINA

1. *L. Mendel Rivers* (1940).
2. *H. P. Fulmer* (1921).
3. *Butler B. Hare* (1938).
4. *Joseph R. Bryson* (1938).
5. *James P. Richards* (1933).
6. *John L. McMillan* (1938).

SOUTH DAKOTA

1. Karl E. Mundt (1938).
2. Francis Case (1936).

TENNESSEE

1. B. Carroll Reece (1933).
2. John Jennings, Jr. (1940).
3. *Estes Kefauver* (1939).
4. *Albert Gore* (1938).
5. *Jim McCord* (1943).
6. *J. Percy Priest* (1940).
7. *Wirt Courtney* (1939).
8. *Tom Murray* (1943).
9. *Jere Cooper* (1929).
10. *Clifford Davis* (1940).

TEXAS

1. *Wright Patman* (1929).
2. *Martin Dies* (1931).
3. *Lindley Beckworth* (1938).
4. *Sam Rayburn* (1913).
5. *H. W. Sumners* (1913).
6. *Luther A. Johnson* (1923).
7. *Nat Patton* (1935).
8. *Albert Thomas* (1936).
9. *J. J. Mansfield* (1917).
10. *Lyndon B. Johnson* (1937).
11. *William R. Poage* (1936)
12. *Fritz G. Lanham* (1919).
13. *Ed Gossett* (1938).
14. *Richard M. Kleberg* (1931).
15. *Milton H. West* (1933).
16. *R. Ewing Thomason* (1938).
17. *Sam M. Russell* (1940).
18. *Eugene Worley* (1940).
19. *George H. Mahon* (1935).
20. *Paul J. Kilday* (1938).
21. *O. C. Fisher* (1943).

UTAH

1. *Walter K. Granger* (1943).
2. *J. W. Robinson* (1933).

VERMONT

At Large—Charles A. Plumley (1935).

VIRGINIA

1. *Schuyler O. Bland* (1918).
2. *Winder R. Harris* (1941).
3. *Dave E. Satterfield, Jr.* (1937).
4. *Patrick H. Drewry* (1920).
5. *Thomas G. Burch* (1931).
6. *C. A. Woodrum* (1923).
7. *A. Willis Robertson* (1933).
8. *Howard W. Smith* (1931).
9. *John W. Flannagan, Jr.* (1931).

WASHINGTON

1. *Warren G. Magnuson* (1936).
2. *Henry M. Jackson* (1940).
3. Fred Norman (1943).
4. Hal Holmes (1943).
5. Walter F. Horan (1943).
6. *John M. Coffee* (1936).

WEST VIRGINIA

1. Andrew C. Schiffler (1943)
2. *Jennings Randolph* (1933).
3. Edward G. Rohrbough (1943).
4. Hubert S. Ellis (1943).
5. *John Kee* (1933).
6. *Joe L. Smith* (1929).

WISCONSIN

1. Lawrence H. Smith (1941).
2. HARRY SAUTHOFF (1940).
3. William H. Stevenson (1940).
4. *Thad F. Wasielewski* (1940).
5. *Howard J. McMurray* (1943).
6. Frank B. Keefe (1938).
7. Reid F. Murray (1938).
8. *LaVern R. Dilweg* (1943).
9. MERRLIN HULL (1935).
10. Alvin E. O'Konski (1943)

WYOMING

At Large—Frank A. Barrett (1943).

ALASKA

Anthony J. Dimond (1933).

HAWAII

Joseph R. Farrington (1943).

PHILIPPINE ISLANDS

Joaquin M. Elizalde (1938).

PUERTO RICO

Bolivar Pagán (1940).

FEDERAL JUDICIAL ORGANIZATION

By William M. Schuyler
Editor, *The American Year Book*

SUPREME COURT OF THE UNITED STATES

Harlan F. Stone (New York), Chief Justice of the United States, appointed 1941.

Owen J. Roberts (Pennsylvania), appointed 1930.

Hugo L. Black (Alabama), appointed 1937.

Stanley F. Reed (Kentucky), appointed 1938.

Felix Frankfurter (Massachusetts), appointed 1939.

William Orville Douglas (Minnesota), appointed 1939.

Frank Murphy (Michigan), appointed 1940.

Robert H. Jackson (New York), appointed 1941.

Wiley Blount Rutledge, Jr. (Kentucky), appointed 1943.

Officers of the Supreme Court:

Clerk—Charles Elmore Cropley.

Deputy Clerks—Reginald C. Dilli, Hugh W. Barr, Harold B. Willey.

Marshal—Thomas E. Waggaman.

Reporter—Ernest Knabel.
Librarian—Oscar D. Clarke.

CIRCUIT COURT OF APPEALS OF THE UNITED STATES

District of Columbia Judicial Circuit.—Mr. Chief Justice Stone.

First Circuit.—Mr. Justice Frankfurter; Calvert Magruder (Massachusetts), John C. Mahoney (Rhode Island), Peter Woodbury (New Hampshire).

Second Circuit.—Mr. Justice Jackson; Learned Hand (New York), Thomas W. Swan (Connecticut), Augustus N. Hand (New York), Harrie Brigham Chase (Vermont), Charles E. Clark (Connecticut), Jerome N. Frank (New York).

Third Circuit.—Mr. Justice Roberts; Albert Branson Maris (Pennsylvania), John Biggs, Jr. (Delaware), Charles Alvin Jones (Pennsylvania), Herbert F. Goodrich (Pennsylvania), Gerald McLaughlin (New Jersey).

Fourth Circuit.—Mr. Chief Justice Stone; John J. Parker (North Carolina), Morris A. Soper (Maryland), Armistead M. Dobie (Virginia).

Fifth Circuit.—Mr. Justice Black; Samuel H. Sibley (Georgia), Joseph C. Hutcheson, Jr. (Texas), Edwin R. Holmes (Mississippi), Leon McCord (Alabama), Curtis L. Waller (Florida).

Sixth Circuit.—Mr. Justice Reed; Xenophon Hicks (Tennessee), Elwood Hamilton (Kentucky), Charles C. Simons (Michigan), Florence E. Allen (Ohio), John D. Martin (Tennessee), Thomas F. McAllister (Michigan).

Seventh Circuit.—Mr. Justice Murphy; Evan A. Evans (Wisconsin), William H. Sparks (Indiana), J. Earl Major (Illinois), Sherman Minton (Indiana), Otto Kerner (Illinois).

Eighth Circuit.—Mr. Justice Rutledge; Kimbrough Stone (Missouri), John B. Sanborn (Minnesota), Archibald K. Gardner (South Dakota), Joseph W. Woodrough (Nebraska), Seth Thomas (Iowa), Harvey M. Johnsen (Missouri).

Ninth Circuit.—Mr. Justice Douglas; Curtis D. Wilbur (California), Francis A. Garrecht (Washington), William Denman (California), Clifton Mathews (California), Albert Lee Stephens (California), William Healey (Idaho).

Tenth Circuit.—Mr. Justice Rutledge; Orie L. Phillips (Colorado), Sam G. Bratton (New Mexico), Walter A. Huxman (Kansas), Alfred P. Murrah (Oklahoma).

UNITED STATES COURT OF CUSTOMS AND PATENT APPEALS

Finis James Garrett (Tennessee), Presiding Judge, appointed 1929.

Oscar E. Bland (Indiana), appointed 1923.

Charles Sherrod Hatfield (Ohio), appointed 1923.

Irvine L. Lenroot (Wisconsin), appointed 1929.

Joseph R. Jackson (Montana), appointed 1937.

UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA

D. Lawrence Groner, Chief Justice.
Harold M. Stephens.
Justin Miller.
Henry White Edgerton.
Thurman W. Arnold.

COURT OF CLAIMS OF THE UNITED STATES

Richard S. Whaley (South Carolina), Chief Justice, appointed 1939.

Benjamin H. Littleton (Tennessee), appointed 1929.

Samuel E. Whitaker (Tennessee), appointed 1939.

Marvin Jones (Texas), appointed 1940.

Joseph W. Madden (Illinois), appointed 1941.

DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF COLUMBIA

Alfred C. Eicher, Chief Justice.
James M. Proctor.
F. Dickinson Letts.
Daniel W. O'Donoghue.
Jennings Bailey.
Oscar R. Luhring.
T. Alan Goldsborough.
James W. Morris.

Jesse C. Adkins.
Bolitho J. Laws.
David A. Pine.
Matthew F. McGuire.

UNITED STATES CUSTOMS COURT

Webster J. Oliver, Presiding Judge.
William J. Tilson.
Genevieve R. Cline.
David H. Kincheloe.
William J. Keefe.
Thomas J. Walker.
William A. Ekwall.
William P. Cole.
Charles D. Lawrence.

TAX COURT OF THE UNITED STATES

J. Edgar Murdock, Presiding Judge.
Charles P. Smith.
John M. Sternhagen.
C. Rogers Arundell.
Ernest H. Van Fossan.
Eugene Black.
J. Russell Leech.
Bolon B. Turner.
Arthur J. Mellott.
William W. Arnold.
John A. Tyson.
Samuel B. Hill.
Richard L. Disney.
Marion J. Harron.
John W. Kern.
Clarence V. Opper.

UNITED STATES MARSHAL'S OFFICE

United States Marshal.—John B. Colpoys.

Chief Deputy Marshal.—C. Michael Kearney.

UNITED STATES ATTORNEY'S OFFICE

United States Attorney, District of Columbia.—Edward M. Curran.

Assistants.—John W. Fihelly, Charles B. Murray, George E. McNeil, Cecil R. Heflin, Grace B. Stiles, John B. Diamond, Bernard Margolius, John C. Conliff, Jr., John L. Ingoldsby, John P. Burke, Ray L. Jenkins, Sylvan Schwartz, Joseph F. Lawless, Helena D. Reed, John J. O'Leary, Daniel B. Maher, Timothy P. Ansberry.

CIVIL SERVICE IN THE UNITED STATES

By Harry B. Mitchell

President, United States Civil Service Commission

THE MERIT SYSTEM IN WARTIME

For the third time this heading is used to describe in part the work of the Civil Service Commission to serve a wartime government on the civilian personnel front. (The American Year Book for the years 1941 and 1942 should be consulted.) The Commission developed its war work along two broad lines: (1) in recruiting and placing qualified employees in the war and other agencies, and (2) in the most effective utilization of the employees already at work.

RECRUITING AND PLACING EMPLOYEES

The total number of appointments to Federal civilian positions during the fiscal year ended June 30, 1943 was 2,697,124. In normal years the range would be from 60,000 to 80,000. The work of recruiting centered in the Federal Civil Service Commission. As the manpower shortage increased the departments and establishments began to make employments in trainee positions and to employ women, older men, and the physically handicapped. At the end of the fiscal year nearly 1,000,000 women were employed in civilian positions by the Federal Government, and more than 16,000 physically disabled persons had been employed.

The Commission conducted a careful and individual survey of more than 2,000 different kinds of positions to determine their availability for the physically handicapped in order that appropriate placements could be effected. The results of this survey are of greatest aid in connection with the placement of disabled veterans now being discharged from the armed forces.

UTILIZATION OF PERSONNEL

The second phase of the Commission's war program, personnel utilization, has many features; among them are: in cooperation with the individual agencies conduct a survey for the purpose of disclosing and correcting lack of use of employees' highest skills on a full-time basis; improve supervision at all levels; install health and safety programs to reduce accidents and absenteeism; develop training programs; break down into its component parts the work of a critical position in which there is a shortage of manpower and train employees to do the work of each of the parts; and transfer employees to where their skills can be best used in the war program.

In these fields and with the full cooperation of employing officers the results are found in changes affecting large numbers of employees. For example, more than 100,000 war transfers were made by the Commission, the agencies have trained more than 100,000 supervisors, and nearly 300,000 civilian and military aircraft maintenance mechanics were trained.

OVERTIME PAY ACTS

The Congress as a wartime measure by Acts of Dec. 22, 1942 and May 7, 1943, suspended the Saturday half-holiday law and provided for overtime pay for work in excess of 40 hours a week, to cover a large number of clerical and other civilian employees of the Government who had not theretofore been granted overtime pay. These employees had, however, performed much overtime throughout the national defense and war period. Overtime pay is permitted only on that part of an employee's pay that does not exceed $2,900 per annum. The trades and certain other classes of employees in the Federal service have received overtime pay for many years.

DEFERMENT OF FEDERAL EMPLOYEES

The Selective Training and Service Act of Sept. 16, 1940 provided for the deferment of certain persons from military training and service for various reasons, including work in essential occupations. With the entrance of the United States into the war the possible occupational deferment of government employees became a matter of public interest.

The President on Dec. 15, 1942 appointed a committee consisting of Paul Bellamy, Ordway Tead, and Eric Johnston, to make independent study and recommendations on the question of deferments of Federal employees from induction into the military service. The Committee's report was transmitted to Congress on March 10, 1943. The report stated that its investigation convinced the Committee that the Federal civilian establishment is not a draft evader's paradise, and the Committee stated that it had been profoundly impressed with the patriotic devotion of the rank and file of government workers.

The Committee submitted several recommendations to the President. One was that each government department or agency designate a committee on selective service in which would be vested the authority to request draft deferments for that agency. A Review Committee was recommended under the War Manpower Commission to pass on all recommendations of the respective agency committees that certain positions in the agency be declared key positions the occupants of which could be recommended to local draft boards for occupational deferment. High standards were recommended by the President's Committee to be applied to positions which might be placed in the key category.

The President by Executive Order No. 9309 of March 6, 1943 directed the establishment of the agency committees and the Review Committee, and in connection with directing the standards to be applied for key positions in the Federal Government stated that such positions "shall be limited to positions involving serious difficulty of replacement because a scarcity of available qualified personnel exists and because any incumbent of the position must have had, in order to perform the duties effectively, an extended period of training or specialized experience."

The Congress by Act of April 8, 1943 extended the principles of the President's order to the judicial and legislative branches of the Government, requiring them to establish committees to pass on draft deferments of their employees. The act also stated that the local draft boards were not to grant occupational deferment to any Federal employee unless the request for deferment was made in accordance with the provisions of the President's order. The President in a statement to Congress pointed out that, of the more than 2,000,000 full-time paid civilian employees, more than two-thirds are employed in the War and Navy departments, and that the greater part of these are engaged in war production in government arsenals, ordnance plants, powder factories, and navy yards, or in essential work at government depots, proving grounds, air bases, naval training stations, and hospitals. It was also stated that less than five per cent of this group of civilian employees had been deferred for occupational reasons.

In June 1943 Federal civilian employments reach 3,156,953; approximately 1,000,000 of this number were women. The civilian establishment of the Federal Government contributed more than 503,000 employees to the armed forces of the Army and Navy, and in October the Selective Service System released its monthly report showing that only 84,000 Federal civilian employees were occupationally deferred. This number includes civilian employees of the War and Navy departments.

GROWTH OF THE EXECUTIVE CIVIL SERVICE

The war agencies of the Government continued to expand their civilian forces up to the end of the fiscal year June 30, 1943 when the total was 3,156,953. The accompanying table shows the number employed at the end of each fiscal year in two-year periods. Beginning with July the number of Federal civilian employees was reduced and at the end of September it was down to 2,805,526.

	June 30, 1935	June 30, 1937	June 30, 1939	June 30, 1941	June 30, 1943
Competitive classified positions....	455,229	532,073	622,832	990,218	*
Unclassified and exempt positions..	264,211	309,591	297,478	367,932	*
Total....................	719,440	841,664	920,310	1,358,150	3,156,953

* Statistics showing the division between competitive classified positions and unclassified positions are no longer available under War Service appointment procedure.

CIVIL SERVICE IN THE STATES

General.—In 1943 there were 20 states which had merit systems covering approximately all the executive departments of the state governments. All the other states had certain departments which operated under merit regulations. More than 550 cities of the United States and a number of counties selected some or all of their employees on a merit basis. Approximately 62 per cent of all public employees are now covered by some type of retirement system. About 75 per cent of all cities over 10,000 or more population operate retirement systems, but only about 17 per cent cover all employees. At least 16 states operate systems covering all state employees, 35 operate plans for school teachers, and 10 provide for participation by local government employees in the state retirement plans.

California.—An ordinance providing a merit system for all employees of San Mateo County was adopted.

The ordinance stipulated that technical personnel services be contracted for with the California State Personnel Board. The merit system for the city and county of San Francisco was extended to museum employees. By more than a three to one vote, the citizens of San Mateo, voted on April 6 in favor of the charter amendment to establish a merit system for all city employees.

A number of new laws passed by the last session of the legislature extend civil service to additional state employees, authorize new employment procedures to relieve the manpower shortage and protect service men's rights. Two of the laws, effective Jan. 1, 1944, bring employees of the State Railroad Commission and the Attorney General's office (other than clerical employees who are now civil service employees) under the state merit system. The county of Fresno adopted a merit system for its employees. The manpower shortage is being solved in Corona where one municipal official is serving as city engineer, city purchasing agent, superintendent of streets, manager of the sewage treatment plant, superintendent of parks, and coordinator of civilian defense!

An interesting and important decision was made by a California court in the case of *Fernelins v. Pierce,* 138 Pac. (2d) 12 (Cal.) where it was ruled that the power to suspend or discharge subordinates from duty and to start proceedings for their removal from the civil service lists carries with it the correlative duty vigilantly to exercise the power, and the negligent failure of such officials to act leaves them answerable in damages to persons who have suffered loss proximately resulting from such negligence. The case arose because the wife and infant children of a deceased prisoner brought action against the city chief of police and the city manager, seeking damages for the prisoner's death. The death occurred because of brutal and inhuman beatings by two police officers who had engaged in such depraved conduct on numerous occasions to the knowledge of supervisors who had not removed them. The court held them accountable not for the negligence of the employees, but for their own negligence in failing to remove the employees.

Florida.—By a vote of almost two-to-one, citizens of Fort Lauderdale elected on June 7 to retain their civil service system. A bill passed by the 1943 state legislature called for the referendum on abolishing civil service in that city.

Georgia.—The legislature authorized the governor to appoint a three-member council to administer a merit system for employees of the state departments of labor, public welfare, and health, thus consolidating the present separate merit system councils for each of the three departments. Fulton County, in which Atlanta is situated, has established a civil service agency for county employees.

Illinois.—A pension plan for state employees, recently passed by the General Assembly, was signed by the Governor and became effective on Jan. 1, 1944. Members of the state legislature, elected officials, persons appointed by the governor under the Civil Administrative Code, and members of other retirement plans are not to be covered by the plan.

Indiana.—A court decision in the case of *City of Lafayette v. Keen,* 48 N.E. (2d) 63 (Ind.) held that the right of civil service employees to receive the salary provided for them by city ordinance, pursuant to statutory direction, can not be defeated by the failure of the city to appropriate sufficient funds to pay such salary. When the legislature provided for the employment of firemen for a continuous and indefinite period of time to be terminated for cause after proper notice and hearing, this action made it mandatory upon the common council to appropriate annually sufficient money to pay their salaries for the ensuing year as the same might be fixed by ordinance. This being the city's plain duty, the employees' right to recover does not depend upon the existence of an appropriation as otherwise such duty could be avoided and set to naught by a failure to perform it.

In *City of Frankfort v. Easterly,* 46 N.E. (2d) 817 (Ind.) the court held that a city that is subject to a tenure statute in employing and discharging policemen can not evade the obligations imposed by the statute by a device of neglecting to establish the administrative board provided by the statute. A policeman wrongfully discharged was allowed recovery for loss of salary. The court denied the petition for rehearing, pointing out that after the policeman was discharged the actual size of the police force was increased.

Kansas.—Wichita adopted a civil service law to govern municipal employments.

Louisiana.—On Jan. 1, 1944, the merit systems for the State of Louisiana and the City of New Orleans went into full effect. On that day each state and city employee received a pamphlet from the Louisiana Civil Service League explaining their new status. An amendment of the Louisiana law extends civil service to all paid positions in the police and fire departments in cities of 13,000 to 100,000 population. These cities are: Alexandria, Baton Rouge, Lake Charles, Monroe, Shreveport, Bogalusa, and New Iberia. Five of the eight cities have now established police and fire civil service commissions.

Michigan.—The new Dearborn city charter establishes a Department of Personnel to replace two former civil service commissions covering fire and city employees. The charter provides that a sum of not less than one-half of one per cent of the aggregate annual payroll of the city for the preceding fiscal year shall be appropriated by the City Council for each fiscal year for the operation of the department.

Hazel Park adopted a merit system to govern municipal employments. Detroit has the highest paid municipal personnel in the country, according to the Detroit Bureau of Governmental Research. Of the 13 largest cities in the country, Detroit is the only one in which the standard work week is 48 hours. Median salary in Detroit last May was $3,319, and in the 12 other cities over 500,000 only $2,200.

The merit system has been extended to six additional counties and three cities as a result of recent elections. The voters of Wayne County, in which Detroit is located, approved a charter amendment providing a civil service system for all county employees. The city council of Ironwood, was authorized to establish a merit system for all city employees as the result of an amendment to the city charter.

Minnesota.—Two counties, St. Louis and Ramsey, in which are Duluth and St. Paul respectively, adopted civil service for all county employees.

Missouri.—In Kansas City the portion of the city charter providing for a merit system was amended to create a personnel board composed of three members appointed by the mayor. The amendment, adopted by a vote of nearly three-to-one, also prohibits political activity of city employees.

New Jersey.—Two counties, Burlington and Warren, and two municipalities, East Paterson and Point Pleasant Beach, have been added to the civil service jurisdictions in the state. Civil service proposed for four other municipalities and one other county was defeated. A State Supreme Court ruling held that the mayor of Garfield did not vacate his office by entering the armed forces. The mayor is conducting city business by mail from his army post. In *Martini v. Civil Service Commission,* 30 Atl. (2d) 569 (N.J.) the State Supreme Court held that the state civil service law applies to the appointment of a clerk to a Criminal Judicial District Court, and is not confined to the executive branch of the state government.

New York.—The Court of Appeals affirmed the decision of the lower court that the mayor of New York has no authority to direct the appointing official of the city to prohibit city employees from engaging in any private employment or carrying on any private business except in the case of any employees earning less than $1,200 a year. The mayor's order directed that employees so engaged without permission of the department head were to be dismissed from the service. The lower court had held that there was no provision in the City Charter or in the New York City Civil Service Law which vested the mayor with power to remove civil service employees for the reason given and that the Charter furthermore does not grant power to the mayor or Board of Estimate to make civil service rules.

Pennsylvania.—A state law providing one-half salary payments for dependents of state, county, and municipal employees who are now in the military service was recently held unconstitutional by the State Supreme Court. The court stated that the legislature had no right to grant pensions and gratuities only to families of public employees, thus creating a "special and favored class consisting of dependents of fewer than two per cent of those 750,000 Pennsylvanians now in the nation's war service."

A state-wide municipal employees' retirement system, effective September, 1943, has been established by the Pennsylvania General Assembly. According to the law, cities will be required to pay a prior service credit for each employee and employees will be required to make a similar payment.

Tennessee.—Recent legislation extends civil service to Davidson County in which Nashville is situated and strengthens the existing civil service act for the City of Nashville. The merit system adopted for Davidson County provides for a five-member Civil Service Commission, to be appointed by the Quarterly County Court, to serve without compensation for overlapping terms of five years.

Wisconsin.—A merit system for all city employees was recently authorized through the adoption of a charter ordinance by the City of Kenosha. All persons holding positions in the city service not of a temporary nature at the time the ordinance was adopted will be continued in the service without examination. A new law in Wisconsin will permit counties for the duration of the war to fill civil service positions with physically handicapped persons whose efficiency is not impaired more than 50 per cent.

PERIODICAL PUBLICATIONS

Army and Navy Journal
1701 Connecticut Ave., N.W., Washington, D. C.
Civil Service Standard
3 Beekman Place, New York City.
Congressional Digest
2131 LeRoy Place N.W., Washington, D. C.
Congressional Directory
U. S. Government Printing Office, Washington, D. C.
Congressional Record
U. S. Government Printing Office, Washington, D. C.
United States News
2201 M Street N.W., Washington, D. C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Academy of Political Science, Fayerweather Hall, Columbia University, New York City.

American Academy of Political and Social Science, 3457 Walnut St., Philadelphia, Pa.

American Bar Assn., 1140 N. Dearborn St., Chicago, Ill.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

AMERICAN HISTORICAL ASSN., Library of Congress Annex, Study Room 274, Washington, D. C.

AMERICAN POLITICAL SCIENCE ASSN., 105 Harris Hall, Northwestern University, Evanston, Ill.

COMMERCIAL LAW LEAGUE OF AMERICA, 111 W. Monroe St., Chicago, Ill.

HONEST BALLOT ASSN., INC., 27 William St., New York City.

INSTITUTE OF PUBLIC ADMINISTRATION, 261 Broadway, New York City.

NATIONAL ASSN. OF LEGAL AID ORGANIZATIONS, 24 Exchange St., Rochester, N. Y.

NATIONAL CIVIL SERVICE REFORM LEAGUE, 67 W. 44th St., New York City.

TOWN HALL INC., THE, 123 West 43rd St., New York City.

DIVISION IV

STATE GOVERNMENT

STATE ADMINISTRATION AND LEGISLATION

By David W. Robinson
The Council of State Governments

LEGISLATIVE SESSIONS

Forty-four of the 48 state legislatures met in regular session in 1943: 40 under the biennial system in which sessions are held in odd-numbered years; an additional four, New Jersey, New York, Rhode Island, and South Carolina, hold sessions annually; the remaining four, Kentucky, Louisiana, Mississippi and Virginia, hold biennial sessions in even-numbered years and thus did not meet in 1943. With an evident desire to streamline sessions by limiting legislative action to matters essential to the war emergency and to anticipated post-war problems, the 44 state legislatures in 1943 held shorter sessions and considered fewer measures, in total and on the average, than in 1939 and 1941. Approximately 45,000 bills were introduced in the state legislative sessions, of which almost 40 per cent were enacted into law.

WAR LEGISLATION

Continuing a trend forecast in 1942, when the legislatures of Maine, Massachusetts, New Jersey, New York, and Rhode Island granted emergency war powers to their states' chief executives for discretionary use during legislative interims, the governors of nine additional states were given similar grants of authority during the year, to be exercised, in some cases, with the concurrent advice and consent of other state officials or agencies. The legislatures of Oklahoma, California, Connecticut, Delaware, Iowa, New Hampshire, Pennsylvania, Vermont, and Washington, in 1943, authorized their state executives to exercise special war powers, in varying degrees, to suspend or modify, when the legislature is not in session, any statute interfering with the war effort.

Civilian defense agencies, operating under emergency acts of the legislatures in many states, were reconstituted in 29 states during the 1943 sessions. In Colorado, a State Guard was authorized to replace the National Guard called into Federal service. A tri-state agreement among California, Oregon, and Washington established uniform blackout regulations for protection against possible enemy action. The California legislature also provided a system of compensation for civilian defense volunteers.

Restrictions on state banks were lifted in 40 states to make it possible to permit local financing of war contracts. In these states, loan limitation statutes were, in effect, expanded as to that part of such loans guaranteed by government contracts.

State housing laws were amended in 30 states to meet Federal regulations dictated by scarce materials and the great need for war housing in the multiple centers of war production. Twenty-eight states passed enabling legislation to permit existing housing authorities to engage in war housing activity; in nine states local housing authorities were permitted to open public housing projects to occupancy by war workers; county and regional housing authorities were authorized in six states, and the operational areas of existing authorities were extended by the legislatures of five other states. Connecticut established a State Housing Authority for the first time by statute, and in Georgia the office of State Director of Housing was created.

State legislation unifying state laws and regulations governing the interstate operation of trucks and passenger vehicles transporting war goods was adopted in 20 states. In addition, practically all of the states permitted reciprocal licensing of passenger cars, either by law or by administrative agreement, thus making it easier for war workers to travel from state to state.

BENEFITS FOR SERVICE MEN

New 1943 state laws for the benefit of service men covered job security, tax exemptions, education and rehabilitation, voting rights, and a variety of other subjects.

Nevada, Rhode Island, and Utah adopted laws protecting the jobs of men entering the armed services. The Rhode Island law provides penalties for an employer who refuses to restore a job to a member of the armed services if such a member applies within 40 days of his discharge and if the employer is able to rehire him.

At least 36 states, in 1943, modified their income, property, license, or poll tax provisions to benefit service men. Legislatures in 16 states exempted service men and women from paying the state income tax on military pay and allowances. These laws, generally, do not affect liability for taxes on other income, though returns on this income do not have to be made until six months after the war. Several states, including Idaho, Indiana, Kansas, Nevada, and North Carolina, extended to veterans of this war the various tax and other exemptions granted veterans of the First World War.

Thirty-nine states adopted legislation simplifying legal procedures applying to service men, including acknowledgments and powers of attorney.

All states, with the exception of Louisiana and New Mexico, have perfected amendments to their unemployment compensation statutes protecting the equities of service men in such funds.

For education and rehabilitation fields, special funds were created in North Dakota, Oregon, and Wisconsin. Ex-service men will be given the right to attend state educational institutions without payment of fees or tuition in California, Montana, Oregon, and South Dakota, while New Hampshire, North Carolina, and West Virginia provided scholarships for the children of war veterans at state schools.

VOTING RIGHTS

Many states sought to make possible the extension of voting rights to those in the armed services, not only through such measures as poll tax modification in the nine states which retain that tax, but through an easing of registration requirements, time limitations, and other electoral procedures. Absentee voting generally, as well as for those in military service, was made possible for the first time in Delaware when the 1943 legislature endorsed a measure passed by the preceding legislature, thus amending the state's constitution.

In Georgia, a general election endorsed the action of the legislature and amended the state constitution to lower the voting age to 18 years. Georgia is the first state to take such action.

LEGISLATION FOR POST-WAR DEVELOPMENT

All state legislatures, in 1943, considered measures designed to prepare the states for post-war reconstruction and development. About half of the states passed laws creating reserve funds from surpluses or bond issues for public work programs, veterans' benefits, airport and highway expansion, capital improvements and long-term maintenance and repair programs. As examples, the California Legislature, anticipating a general surplus of $100,000,000 by midsummer of 1943, enacted measures freezing $41,000,000 into a war catastrophe reserve and bond redemption fund, and earmarking $43,000,000 for post-war reconstruction work. In Iowa, a $3,000,000 fund has been established for post-war work; a Michigan law sets up a reserve fund of $50,000,000; North Carolina, $20,000,000.

In addition, the legislatures of 13 states authorized municipalities to establish post-war reserve funds in 1943, bringing the total to 21 states in which such post-war fiscal preparedness by local governments is authorized. Maine permits the establishment of such reserves by local units to stabilize the tax rates in less profitable years. North Carolina and Rhode Island permit borrowing from reserves in anticipation of tax collections.

Almost every state permits the investment of such reserve funds in Federal, state, or local governmental obligations. Connecticut requires that at least 50 per cent of such investments be in Federal securities, while Maine provides that not less than 10 per cent nor more than 30 per cent shall be in such Federal securities.

In some of the 21 states, the laws prohibit the transfer of reserve funds. Other states permit such transfers to other capital improvement funds, either by vote of the local governing body or the electorate, or by both. A number of the states make no provision for the diversion or discontinuance of reserve funds. In Connecticut, however, the law permits the unexpended balance to be used to pay non-serial bonds; in Oregon the balance automatically reverts to the general fund after six years, while the Local Government Commission in North Carolina must approve withdrawals of unused fund balances.

The need to develop plans and programs for post-war reconstruction and development was recognized by all states in 1943. Special state agencies to coordinate plans and activities of the state governments and to give guidance to private and local governmental planning efforts have been authorized in at least half of the states. Where new agencies have not been created by legislative action, existing planning boards or development commissions have been assigned the task of correlating state programs.

POST-WAR ADMINISTRATIVE PROGRAM

On the administrative level, the work of these state post-war agencies has been stimulated and coordinated by the work of an Interstate Committee on Post-war Reconstruction and Development, established by the Council of State Governments early in 1943. A series of memoranda on anticipated state problems in the post-war period were prepared, including: (1) Report and Recommendations on Post-war Problems in the States; (2) State Unemployment Compensation Programs and the Post-war Period; (3) Post-war Problems in Agriculture; (4) Wartime Fiscal Policies for State and Local Governments; (5) Outline of a State Program on Post-war Problems of Delinquency and Crime with Special Reference to Demobilization; (6) Federal Programs relating to Demobilization, Rehabilitation, and Reemployment of Veterans; (7) Organization and Operation of a State Post-war Planning Agency; (8) Government-Owned Industry After the War; (9) The Growth of Cooperative Government. These reports, with their recommendations, are being distributed among the officers and agencies of the 48 state governments for adaptation to the local situations prevailing within each state.

TAXATION AND FINANCE

War prosperity and war shortages continued to exercise strong but conflicting influences on state revenue systems during 1943. War prosperity brought the states their greatest revenue surpluses in history; war shortages shifted the emphasis from sales taxes to income taxes.

Real and personal property was subject to a larger number of state laws in 1943 than any other tax group. The trend was toward reduced levies, especially of real estate taxes, by a lowering of maximum rates, broadening exemptions, and a granting of new reductions. Affecting, in the main, local levies, the more important amendments adopted by the states concerned property held by the United States. Florida, Iowa, and Texas are among the states which exempt from taxation property owned by the United States, unless the Federal Government expressly authorizes taxation.

THE SALES TAX FIELD

In the sales tax field, legislative action in 1943 was highlighted in West Virginia which exempted all food purchases up to 50 cents from the state's 2 per cent sales tax, and in California where the sales and use tax rate was cut from 3 to 2½ per cent. Among the states broadening exemptions from sales and use taxes or otherwise liberalizing these laws were Alabama, Arizona, Colorado, Missouri, North Dakota, Oklahoma, South Dakota, Utah, and Washington. Alabama exempted gross proceeds from the sale of agricultural publications, and allowed manufacturers to buy supplies and materials without payment of the sales tax. Colorado exempted all fuel oil, coke, newsprint and printer's ink used by publishers and commercial printers. North and South Dakota, both, exempted from the sales tax the sale of materials and supplies to the state and local governments; Oklahoma exempted from the state use tax all tangible personal property stored in the state pending shipment for use in another state; Washington made tax-exempt the sale of an entire operating property of a publicly-owned utility, or sale of a section of the property.

Among the states broadening their sales tax structures to cover a wider range of transactions were Alabama, Illinois, Oklahoma, South Dakota, Utah, Washington, and West Virginia. Illinois amended its retailer's occupation tax to include sales made by foreign corporations through solicitation of orders by salesmen in Illinois. Utah levied a 2 per cent tax on the sale of coal, fuel oil, and other fuels for domestic or commercial consumption. West Virginia extended its sales tax law to include persons selling tangible personal property or furnishing services to retail dealers for resale only; wholesalers were classified as retail dealers when they make sales for personal consumption or use.

FUEL AND INCOME TAXES

Legislatures of half a dozen states brought motor fuel other than gasoline within reach of their tax laws or changed rates of taxation on such fuels. Oregon, Indiana, North Dakota, Connecticut, Utah, and Colorado levied taxes ranging from two to five cents a gallon on motor fuels used to power diesel and similar equipment. No additional gasoline taxes or increases in rates were reported.

Delaware, Florida, and New Mexico levied new cigarette taxes in 1943, bringing the number of states now taxing tobacco products up to 31.

South Dakota and West Virginia abolished their income tax levies, in 1943, while California, Iowa, Maryland, New York, North Dakota, Oklahoma, Oregon, and Wisconsin granted taxpayers substantial reductions.

REVENUE ADMINISTRATION

Revenue administration reorganizations were undertaken by 20 state legislatures in 1943. In Illinois, a newly created Department of Revenue administers all major excise taxes for the state. The Department of Finance, while retaining its functions of examining and supervising accounts and expenditures of other departments, and of supervising state purchasing, was given the additional job of operating the state informational service. The State Tax Commission, in charge of property assessments, was abolished and its functions were transferred to a new division within the Department of Revenue. South Dakota created a new division of licensing within its Department of Finance to administer motor and tractor fuel taxes, the alcoholic beverage tax, and the petroleum inspection, peddlers and solicitors taxes.

Several states enacted legislation to bring about greater uniformity and simplicity of procedures in the tax administration field. Wisconsin set up a uniform system of cost accounting for county highway departments. Alabama, Florida, Georgia, Illinois, Ohio, New York, and Pennsylvania enacted laws covering procedures in connection with legal remedies and appeals. The abolition of the state board of tax appeals in Georgia and the transfer of its functions to the State Revenue Commission was an important development in this field. New York enacted a law under which procedure for a review of decisions of the tax commission under the income, gas, public utility, business corporation, milk, and cigarette tax laws is to constitute "the exclusive remedy" through which a taxpayer may have his liability determined judicially.

Kansas, Maryland, Rhode Island and Washington made provisions for the exchange of information with other states and the Federal Government on the basis of reciprocity or for the release of information concerning tax collections to the Federal Government for specific purposes.

LABOR LEGISLATION

The bulk of state labor legislation adopted in 1943 was designed to swell the nation's manpower pool, with many of the new laws relaxing or suspending provisions governing employment of women and children and, in a few cases, aged pensioners.

Nearly a score of states relaxed labor laws to encourage employment of women. In Ohio, as a typical example, limitations on hours of employment of women and minors were relaxed for the duration by raising the ceiling on the number of hours they may work per week and permitting the employment of women in some occupations previously barred to them.

Other states taking such action include Texas, New Hampshire, Arkansas, California, Delaware, Illinois, Indiana, Maine, Montana, North Dakota, Tennessee, Utah, and Wyoming.

To aid in the production of food, several states, including California, Delaware, Indiana, New Jersey, New York, North Carolina, Utah, and West Virginia relaxed laws to permit students to participate in agricultural operations.

At least 12 states lowered age limits for drivers' licenses. Additional measures enacted to increase manpower includes legislation permitting a suspension of all state laws governing the number of days men and women can be employed in Indiana; return to service of retired teachers without loss of retirement benefits in nearly a score of states; use of prison labor in many states; intermittent employment of aged persons without impairment of old-age grants in California, Wyoming, Montana, and several other states.

Seven states enacted legislation involving the regulation of labor unions: Alabama, Colorado, Florida, Idaho, Kansas, Tennessee and Texas. The Florida statute requires registration with the Secretary of State of all unions, licensing of union business agents, limitation of initiation fees, elections by secret ballot, and the confining of picketing the areas in which disputes arise.

SOCIAL LEGISLATION—OLD AGE GRANTS

Social legislation in 1943 reflected generally the stronger financial position of the states which led to increased assistance to dependents and indigents.

Ceilings on old-age assistance grants were raised by five states. California raised its maximum grant from $40 a month to $50; Maine and Maryland raised their maximums from $30 to $40; Minnesota, from $30 to $50; and Tennessee, from $25 to $40 a month. Maximum limits were eliminated altogether by Iowa, Montana, and New Jersey. Thirty-one states now permit maximum grants of $40 a month or more as old age assistance, or have no ceilings at all. Other states, including Michigan and Colorado, increased the amount of property which recipients of assistance might have.

Three states paved the way for larger old age assistance grants by increasing appropriations for that purpose. Michigan thus made possible an increase in monthly grants from $20 to $28; Oregon appropriated $12,000,000 of state liquor funds to be supplemented by other revenues to increase old age pensions from $25 to $38 a month; Texas raised the monthly allocation of old age assistance funds from $1,750,000 to $1,900,000, making possible an increase of several dollars a month.

One state, Idaho, found its legislature refusing to carry out a voters' initiative proposal for a senior citizens' grant act making every person over 65 eligible for a $40 a month pension, plus medical service, regardless of need. The legislature refused to act on the grounds that the legislation would have cost the state $9,000,000 more than was spent the preceding year under a law permitting maximum grants for old age assistance of $40 a month, on the basis of need.

Ceilings on financial aid to the blind were raised in seven states by the 1943 legislatures. Maine, Maryland, North Carolina, and Tennessee raised the maximum which can be granted from $30 to $40 a month; Montana eliminated its ceiling maximum of $40 a month; Nevada raised its assistance grant in this category to $20 a month.

CHILD CARE

By the close of the 1943 legislative year, all states but Nevada had aid to dependent children programs in operation and approved by the Federal Social Security Board which participates in the financing of such programs. All states but Delaware, Missouri, Nevada and Pennsylvania had board-approved aid to the blind programs.

Twenty additional states, making a total of 32, enacted legislation in 1943 designed to establish and administer wartime child care programs. This legislation, typically, authorized public schools or other agencies to establish day care nursery schools or to undertake extended school services, with some of the states providing funds for the operation of day care centers. New York State authorized a $15,000,000 program and made an outright appropriation of $2,500,000 for matching by the Federal Government.

As curbs to juvenile delinquency, Florida, Texas, North Carolina, and Arkansas were among the states limiting the sale of liquor after a specified hour, while Washington, Michigan, and Arkansas strengthened statutory prohibitions against the sale of alcoholic beverages to minors.

SOCIAL HYGIENE

More than half of the legislatures considered laws affecting social hygiene. Additional or new legislation, adopted in 1943 in Arkansas, Florida, Georgia, Oklahoma, Tennessee, Texas, and West Virginia, raised to a total of 19 those states having adequate control over most features of prostitution. Thirty states now require pre-marriage health examinations, four states, Missouri, Nebraska, Idaho and Wyoming having enacted such laws in 1943. Blood tests for expectant mothers are now required in 30 states also, with Idaho, Georgia, Kansas, and Nebraska legislation having been passed in 1943. An Alabama statute of 1943 launched a venereal disease control program which looks to the eventual examination for syphilis of every person in the state between the ages of 14 and 50.

PRISON REFORM

Georgia's prison reform legislation, adopted during a special legislative session in 1943, topped, in general interest, all penal legislation considered in the states during the year. Designed specifically to eliminate the "chain gang" conditions and techniques made infamous through books and motion pictures, a new State Department of Corrections has been substituted for the old State Board of Prisons, the director of which is specifically enjoined to prohibit whipping, abolish road camps, segregate the sexes, restrict the use of striped clothing on prisoners, institute programs for rehabilitation, provide educational and recreational activities, and formulate rules and regulations in a systematic manner for the rewarding of exemplary prisoners.

STATE AND LOCAL RETIREMENT SYSTEMS

Approximately half of the 48 states now provide retirement systems for their employees. Under a Michigan law enacted in 1943, 16,000 state employees contribute 5 per cent of their salaries up to $3,600 a year and the state will contribute more than $1,000,000 annually to a state retirement system. Retirement is optional at 60; compulsory at 70. The annual pension will consist of an annuity, a basic service pension of $100 and membership service and prior service allowances. Monthly allowance for a person who has earned $2,000 a year from the age of 40, with 10 years' prior experience, would amount to $92 at the age of 65.

States adopting pension systems for their school teachers or other school employees in 1943 include Arizona, Oklahoma, and Nevada.

Municipal employees retirement systems were authorized by Pennsylvania, Wisconsin, and Colorado during the 1943 legislative sessions, making a total of 11 states wherein such systems have been authorized.

The Pennsylvania and Wisconsin systems are similar in purpose and in general form: each provides for optional inclusion of municipalities and for joint contributions by employees and cities. Colorado's system is entirely novel in the manner of extending coverage to municipal units. Coverage is given automatically, but cities are authorized to exempt themselves from participation by councilmanic action.

Protection on a statewide basis was previously provided by California, Illinois, Maine, Minnesota, New Jersey, New York, North Carolina, and Ohio. All but Minnesota require municipal governments to make payments into the state retirement system or set up their own employee pension plans. In Minnesota, employees make the entire contribution to the retirement fund.

A score of legislatures found it desirable, for the generally expressed reason "to stabilize state employment, reduce excessive personnel turnover, and offer suitable attraction to highgrade men and women to enter state service," to raise salary levels during 1943. In North Dakota, the ceiling over state employees' salaries was removed and an increase of 25 per cent was granted. California continued recent wartime salary increases of $25 and $20 a month to those receiving less and more, respectively, than $300 a month. New Jersey, New York, and Wisconsin gave employees wartime cost-of-living bonuses on a percentage basis. In each case, the increase is not applicable over a certain set amount.

HIGHWAYS AND MOTOR VEHICLES

War emergency conditions were clearly reflected in legislative action of 1943 in developments affecting highways and motor vehicles. Many legislatures authorized the adoption of new vehicle license plates because of metal shortages. Highway speeds were generally reduced by legislation granting emergency war powers to the governors.

Delaware, Minnesota, Missouri, Nebraska, New Hampshire, New Mexico, North Carolina, and Wisconsin legislated to liberalize motor truck size and weight requirements and to bring such requirements as nearly into agreement with recommended minimums as possible.

Several agreements relating to trucks, commercial vehicles, and passenger automobiles were reached during the year. Florida established a reciprocal trade commission to treat with similar commissions in neighboring states in an effort to wipe out prevailing inequities. Oklahoma, Texas and Arkansas negotiated and ratified an interstate agreement in this field. Legislative action in 1943 led to the adoption of a reciprocal truck bill in New Hampshire and to the negotiation of a pact ending trucking between Wisconsin and Michigan. Reciprocity measures were adopted also in Minnesota, South Dakota, Tennessee, and Utah.

Driver responsibility laws were passed by Indiana, Oregon, and Utah during 1943; because of loss of state personnel, Connecticut, Delaware, South Carolina, Vermont, and Washington were forced to abandon or curtail the periodic inspection of motor vehicles.

The trend toward banning the use of earmarked "highway" funds for non-highway purposes continued in 1943 by the legislative adoption of constitutional amendment proposals to be submitted to the voters in Maine and Washington. Similar amendments were initially approved in New York and Pennsylvania but must be passed on again by the legislatures before appearing on the ballot. Fourteen other states at the present time have constitutional provisions of this type.

NATIONAL AND INTERSTATE RELATIONS OF THE STATES

By Frederick L. Zimmermann
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THE STATES RIGHTS ISSUE

The 1942 session of Congress witnessed the return to the limelight of the old cry of "state rights." This issue was similarly featured in public discussions. There is no doubt that in many instances the issue was raised, as has so often been true in the past, by one group or another as a collateral argument for the point of view or the interest they represented. However, it is also true that its return to prominence is due in large part to public reaction against centralization, consequent public interest in the role of the states, and, notably, to increasing consciousness and organization upon the part of the state governments themselves. It is especially significant and seemingly indicative of the strength of the present renaissance that this question has achieved such prominence during a period of war when generally the necessity for broadening the powers and responsibilities of the National Government receives broad public as well as constitutional affirmation.

GROWTH OF GOVERNMENT CENTRALIZATION

The last war marked the beginning of that intensification of the tide towards centralization characteristic of the last two decades. The current war and the period of preparation which preceded active American military participation have been accompanied similarly by a wide expansion of the sphere of activity of the National Government, but the incidence of this war and of the last—and of the intervening depression—upon our Federal system has been only the crest of a deeper current. Basically, the very nature of our economic and technological development, the increased speed of transport and communication, the expansion of our markets and the heightened tempo of life have all contributed to the trend towards centralization in government as a means of meeting problems that become increasingly complex and increasingly widespread and more difficult of solution by the governments of lesser areas.

These considerations have determined the course of constitutional interpretation by the Supreme Court. The decisions of recent years seem to have eliminated any broad constitutional check upon the extension of the functions of the National Government. Not since 1937 has an act of the national legislature been declared unconstitutional. The Tenth Amendment as a constitutional symbol of legalistic federalism is overshadowed at least for the present by the freeing of the National Government from any court restraint based on the possibility that national action might infringe upon some state interest.

PARALLEL EXTENSION OF STATE AUTHORITY

As some observers have noted, however, the expansion of the sphere of activities of the National Government has not brought as its concomitant a contraction of state government but rather expansion at the national level has been paralleled by a growth of the functions and activities of the state governments. Governor Broughton of North Carolina, expressing his faith in the future of the states, observed at the 1943 General Assembly of the Council of State Governments: "Set against its own past, the State is today an infinitely more powerful governmental unit than it has been at any time in the nation's history. What the States have been forced to surrender to the federal government, they have more than made good with extensions of their own authority over the lives and fortune of their citizens."

Recent judicial interpretation has also freed the States from the rigidities of constitutional federalism in that the right of the states to act is not generally denied because such action may mean state entrance into a sphere where Congress might possibly take action. In addition, judicial interpretation has now freed the states, to a large extent, from the more severe of the restrictions formerly found in the due process clause of the Fourteenth Amendment, a very serious check until recent years upon state regulation and consequently upon state effectiveness. The tide is definitely away from legalistic federalism to a more flexible federalism.

As a result of this judicial restraint in determining the jurisdictional issues of our federalism, the forum for decision as to the relative role of the nation and the states in any sphere of activity has largely shifted from the Court to the Congress. Formerly, the Congress would enact legislation, leaving any question of the proper limits of national authority for determination by the Courts. Today, the decision as to the extent of national activity in any field is made for all practical purposes by the Congress itself. The Court seemingly indicated this fact in *Wickard, Secretary of Agriculture, vs. Filburn* (decided Nov. 9, 1942) when it cited Chief Justice Marshall to the effect that effective restraint on the exercise of the commerce power by Congress "must proceed from political rather than judicial processes." Consequently, considerations as to the proper roles of the nation and the states are playing and probably will continue to play an increasing part in the deliberations of Congress.

THE STATES' REPRESENTATION AT WASHINGTON

It is significant that the state governments themselves are carrying their battle to the Congress. This also is a new development in Federal-state relations. From the time when United States Senators began to be elected by popular vote instead of by the state legislatures the state governments as such have not been represented in Washington. Even before this shift in electoral method, the United States Senators served primarily as members of the national legislature rather than as representatives of the state governments. While state officials and organizations of state officials have appeared in Washington to present their views over the years, they did not represent the state governments as such. Similarly, memorials by the state legislatures to Congress have generally been regarded as expressions of public opinion rather than as representations by the government of the state and have received rather cavalier treatment from the national legislature, but the development in recent years of the machinery of the Council of State Governments has made it possible for the state governments to make representations to Washington relative to matters on which they are in substantial agreement. It should be said, at this point, that the states are not always in agreement, nor is the Council of State Governments as yet a perfected mechanism for representation of the viewpoint of the state governments, but the council has come to be viewed in Washington as the organization that speaks for the state governments.

Moreover, the very existence of the Council with its record of accomplishment, the success of the states in the performance of their role in the war, and the knowledge that there is a public reaction against the irritations of wartime centralization have all contributed to a growing consciousness on the part of the state governments. To this consciousness is added an awareness that the battle must be carried to the Congress. The National Association of Attorneys-General, meeting at the close of 1942, proposed the passage of state legislation authorizing special assistants to the Attorneys-General of the state to watch and report on national legislation affecting the states and providing for the establishment of a central Washington Office for the same purpose. The 1943 Governors' Conference was one of the best attended in the history of that body and was devoted almost entirely to the consideration of the relative role of the nation and the states. It is emblematic of this trend that the Washington Office of the Council of State Governments, in line with the suggestion of the Attorneys-General, began this year to report to the state governments on Congressional legislation affecting the states and that the Council is devoting more and more of its efforts to representing the viewpoint of the state governments at the national capital.

STATE ISSUES IN CONGRESS

Some of the more prominent proposals pending in Congress that affect the States and consequently pose the question as to the degree of national entrance into the field embraced include bills for widening the present provisions for social security and among other things providing for the nationalization of unemployment insurance and the employment services; bills for the Federal regulation of the weights and dimensions of motor trucks, Federal regulation of forests and forestry practices, complete federalization of the regulation of aviation, and a Federal sales tax; the insurance resolution declaring that nothing in the anti-trust laws "shall be construed to apply to the business of insurance . . . or in any wise to impair the regulation of that business by the States"; bills relative to payments to states and localities on Federal real estate holdings in lieu of taxes, for day-care for children of working mothers, and for the establishment of an effective method of voting for people in the armed services.

Some of these bills, if enacted, will have great and far-reaching effect in the states. With respect to some of them the States have taken action through the Council of State Governments. For instance, the states objected to a plan proposed as a wartime emergency for the federalization of the unemployment compensation systems of the country and this bill was defeated in the Ways and Means Committee of the House of Representatives. The states also secured the defeat of a measure which would have federalized the regulation of motor transport and have taken action to oppose proposals for Federal regulation of the forests. In the administrative field also, the states have brought pressure to bear, securing the elimination of a section of an administrative order of the Director of the Economic Stabilization Board which would have given a Federal board the right and authority to fix and control the salaries of state officials, and the abandonment of a directive of the Office of Price Administration providing an elaborate system for the rationing of food grown on the farms of state institutions and used solely for the support of the inmates.

In the case of other proposals now before Congress, the question of "state rights" has been raised by the opponents or proponents of the legislation rather than by the States or the Council of State Governments. Such was the case with respect to the action of the Senate in the closing days of the 1943 session of Congress in turning the question of service-voting back to the states. A committee of the National Association of Secretaries of State, an organization affiliated with the Council of State Governments, had worked with officials of the Army and the Navy in an effort to develop an effective method for soldier and sailor voting. In the main, these recommendations were embodied in the legislation defeated by the United States Senate when that body called for state control of service voting. The states are well aware of the difficulties involved in the administration of any system of service voting, and it is significant that the Council of State Governments has not taken any position on the subject but has awaited final determination of the question by the Congress. As this article is written, it seems likely that the legislation ultimately passed will provide for Federal-state cooperation in providing people in the armed services an opportunity to vote.

However, it should be stated that in many instances the clash in Congress as to the relative role of the nation and the states is a very real one. It seems probable that the state governments through the Council will play an increasing part in the formulation of such decisions, although the ultimate decision will be made by public opinion. In turn, the support of public opinion for the position of the states will be predicated upon the usefulness and effectiveness of the states as units of government in our federalism.

THE TREND TOWARD COOPERATIVE FEDERALISM

More and more it is apparent that Congress will be deciding not so much as to whether a particular subject is properly within the national or the state sphere of action, a familiar line of inquiry when the Court acted as the umpire of the federalism, but as to what should be the relative roles of the nation and the states in any particular field of activity. For the trend away from the rigidities of constitutionalism has been paralleled by a tendency towards cooperative federalism. While the principal current since the period of the last war has been in the direction of centralization in government, it has been accompanied by the growth of what has been aptly called cooperative government—the achievement of a program or objective through cooperative action or administration by the various levels and units of government.

Some may regard this growth as a subsidiary current in the main trend towards centralized government; nevertheless it does offer an alternative to complete centralization. Its best known exemplifications in the field of national-state relations are, of course, those cooperative undertakings implemented by grants-in-aid from the National Government, but its possibilities are not limited to instances based on such financial inducement. The state and local levels of government seem to afford some very real administrative advantages, not the least of which is the fact that they represent established machinery. The outstanding progress in cooperation among the states in recent years, following the development of the Council of State Governments and the State Commissions on Interstate Cooperation, is another important factor in the growth of cooperative federalism. While the present struggle to maintain a balance in our federalism finds popular expression under the old symbol of "state rights," in reality today it represents a demand for an effective federalism in which the state governments will play a responsible part in cooperation with the National Government.

THE STATES AND THE WAR

It is significant that in this crisis of war with the concomitant strong gravitation towards centralization there has been so much demonstration of the possibilities of cooperative government in national-state relations. This is owing, at least in part, to the fact that the states are better organized among themselves than they were during the last war, and that their organization—the Council of State Governments—has served as the agency for coordinating the machinery and legislation of the states with the war needs and requests of the National Government.

There is no need here to review again the history of national-state cooperation for defense and war purposes. That story has been fully outlined in previous issues of this publication. Therefore, this article will simply recapitulate the outstanding accomplishments in that record of war federalism. From the beginning of the defense program in May 1940, the states have cooperated effectively in every way with the National Government. In cooperation with the War Department, the states organized, established and have since operated the Selective Service System. Every state, early in the program, established a State War Council to facilitate cooperation with the war effort of the National Government.

Under the auspices of their war councils, the states organized, established, and have since operated our countrywide system of Civilian Defense. The states organized, established, and operated our first rationing system, and that system is functioning effectively. The states, in record time, established uniform motor transport standards throughout the country to facilitate the movement of war materials and war goods. Reciprocity among the states in the licensing of motor trucks encountered difficulties but is widely observed. It is significant that, while the states were achieving this result, they were at the same time opposing bills before Congress for the Federal regulation of sizes and weights of motor trucks. At the suggestion of the National Government, and for the purpose of conserving rubber, the states established a uniform speed limit for automobile traffic.

Each year since 1940, in cooperation with the Department of Justice, the states, through the Council of State Governments, have developed and promoted a comprehensive legislative program designed to integrate state laws and administration with the war effort. Five proposals for state legislative action in the field of internal security were developed out of the Federal-State Conference on Law Enforcement Problems held in 1940 and were widely enacted by the states. In 1941, seven more proposals were presented to the states. These measures dealt principally with civilian defense. Twenty-nine proposals in many fields were developed in 1942. In all, 41 proposals have been presented to the states by the Council of State Governments.

The degree of acceptance by the states of these various proposals marks a new high in national-state cooperation. Besides those laws directly concerned with internal security and civilian defense, the state enactments embrace such varied and important subjects as the recognition of legal documents executed by servicemen before commissioned officers instead of notaries, without any requirement for indicating the place of execution; the relaxation of stringent state laws governing powers of attorney, to make it possible for servicemen's dependents to act for them during long absence or when they are reported missing; standard laws on weights and measures to prevent deviation in size or weight of munitions and war weapons, and to help maintain price ceilings; the relaxation of laws governing state banks, making possible local financing of large war contracts; the modification of state housing laws and building codes to meet Federal requirements dictated by scarcity of materials and the necessity of war housing; and changes in state laws governing prison labor to permit the production of war goods. In 1943, 15 new proposals were added for enactment by the state legislative sessions of 1944 and 1945, including a motor vehicle licensing act to provide a minimum level of war emergency recognition among the states for out-of-state motor vehicle and drivers' licenses and a model airport zoning act.

The record of national-state cooperation is not exhausted by the program embarked upon by the states jointly through the Council of State Governments. Individual states or groups of states have met localized problems arising out of wartime conditions. Recently, Maryland, Virginia, West Virginia, and North Carolina worked out an informal agreement on a plan for the handling of migratory farm labor, which not only did much to relieve an acute shortage of farm labor in that area, but also has served as a model which the War Manpower Commission has suggested to the other states and to other parts of the country.

THE STATES AND THE OPA

While the record of national-state cooperation in the war emergency is a splendid one, there have been differences of opinion as to the machinery by which many of these war-time functions were to be administered. Some people have favored direct administration by the National Government. On the other side, the Council of State Governments has constantly stressed the advantages of using extant machinery represented by state and local governments as against creating a new parallel structure and has insisted that those duties and responsibilities which are transferred to the National Government for war purposes must be returned to the states at the end of the war. The outstanding example of such a conflict as to administration concerns the Office of Price Administration. In the formative days of price fixing the Council suggested the utilization of state and local machinery as had been done in the establishment of rationing. This suggestion was not followed. In addition, shortly after the states had established the machinery for rationing, the state governments were by-passed and instead Federal regional offices were created to provide the necessary bridge in the rationing system between Washington and the local boards. State officials felt that both these instances represented duplication of extant governmental machinery and that such duplication was both unnecessary and undesirable.

Then in 1942, the Office of Price Administration, through the Executive Committee of the Governors' Conference, requested the states to enforce Federal price ceilings. Undoubtedly, this request was motivated in large part by the fact that Congress had not provided sufficient funds for enforcement by the Office of Price Administration. After the Executive Committee of the Governors' Conference had indicated willingness to undertake this task, the Office of Price Administration withdrew its request, only to renew it again in 1943. The Governors, however, generally now felt that it would be inadvisable for the states to enter the picture at this late date. Therefore, with the exception of certain states and localities, price ceilings are not being enforced by state and local enforcement agencies.

NATIONAL-STATE COOPERATIVE MACHINERY

One of the notable results of national-state cooperation in the war emergency has been the development of machinery to facilitate the relationship between the various national administrative agencies and the 48 states. There has long been need for an agency of the National Government to coordinate and synthesize the suggestions and proposals to the states of the various agencies of that government. In past years there have undoubtedly been duplications and overlapping and, not infrequently, conflicts in suggestions made to the states by different Federal bureaus. There was no single fountainhead to which the states could refer and ascertain the viewpoint of the National Government. Too often, that viewpoint varied from bureau to bureau. The Council of State Governments, in its efforts, as the agency of the states, to facilitate relations between the two levels of government was soon aware of the lack of a similar agency on the part of the National Government and has at various times urged that the National Government establish an agency comprising both national and state officials to serve as the instrumentality for national-state cooperation, just as the State Commissions on Interstate Cooperation have served as the agencies of their states for cooperation with other states and with the National Government.

As a result of the wartime need to provide a well defined channel between the administrative agencies of the National Government and the states, machinery has been improvised to coordinate national recommendations for state action on the one hand and state proposals requiring Federal cooperation on the other. This machinery, which developed out of the Federal-State Conference on Law Enforcement Problems in 1940, consists of the Section on Federal-State Relations of the Department of Justice on the national side and the Council's Drafting Committee of State Officials on the state side. The Department of Justice receives proposals for state legislation emanating both from the national and state levels and consults with the pertinent national agencies in order to aid in eliminating conflicts and, finally, with the national Bureau of the Budget so that clearance with respect to Presidential policy may be obtained. The resultant proposals are presented to the state drafting committee for revision and, if necessary, the revised drafts are re-cleared at the national level. The proposals agreed upon are then presented to the states by the Council of State Governments through the Governors, the State Commissions on Interstate Cooperation, and the State War Councils. There is no doubt that this machinery has proven its worth in eliminating a large part of the confusion that formerly occurred at the Federal level.

Attorney-General Biddle in an article in *State Government* (April, 1943) indicates that this wartime beginning may provide the foundations for a more permanent mechanism of this character. He states: "I am prepared, if desirable, to take the lead in broadening the scope of this federal-state machinery, so that it will embrace general relationships. I believe it should cover both administrative and legislative problems, whether of federal or state origin. It might cover the checking of proposed federal laws and regulations affecting the States before they are suggested to Congress or promulgated." In this connection, it would seem desirable that in any enlarged agency provision be made for participation by Congress at the Federal level analogous to the part played by the state legislatures in the State Commissions on Interstate Cooperation.

In any event, intensified national-state cooperation during this war has had one result; it has inspired a new attitude toward the states upon the part of national officials. The Office of War Information's "Report on Federal-State Cooperation on War Problems" contains this significant paragraph: "A federal official with wide experience in federal-state relations recently remarked, 'Respect for the States is the beginning of wisdom.' State and local cooperation has been greatest, in other words, where federal war agencies have recognized local autonomy, and used local machinery to administer regulations of national scope. Most difficulties have come from deviation from that principle."

STRATEGY OF POST-WAR FEDERAL RELATIONS AND STATE POST-WAR PLANNING

It has been recognized by the leaders in the interstate movement that the relative future importance of state government in the American union will be determined in large part by the effectiveness of the states in performing their part in the war effort and particularly by the preparedness of state governments to meet the exigencies of the post-war period. It would seem that the states have more than weathered the war period. Certainly, they seem to have done a sufficiently effective job to have prevented in this country those more definite changes in the Federal relationship that have characterized war governments in some of the other federalisms of the world. In the post-war period, the public will expect the states to play a much larger share in meeting the problems of the war's aftermath. That these problems will be great and grievous is certain; that they may be critical is well within the realm of possibility. If the states can not promptly meet those problems that would normally fall within their purview, the public will again turn to centralization as a seeming short cut. It is important, therefore, in the post-war strategy of Federal relationships that the states should not be caught in a weakened position as they were in the depression of the thirties.

In 1941, the Tax Committee of the Council of State Governments, developed a wartime fiscal plan and program that was, to a very large extent, put into effect by all the states. These recommendations with respect to wartime fiscal policies for state and local governments urged that those fiscal policies conform with the broad objectives of the war period and with the efforts of the National Government to prevent inflation. The fiscal program, among other things, strongly recommended to the states that they pay off debts as rapidly as possible, rigidly restrict both new and customary expenditures to essential war activities and necessary governmental functions, enact legislation permitting surplus financing with proper safeguards, build up reserves for emergency and post-war needs and invest those reserves in government bonds, maintain tax rates consistent with the objectives of the economic stabilization program and the policy of building up reserves for emergency and post-war use, and improve administrative management to conserve manpower and materials and to minimize impairments of services.

While the widespread adoption of this program by the States served the primary purpose of integrating state fiscal policies with national objectives, it also served to strengthen the potential post-war position of the state governments. Frank Bane, Executive Director of the Council, said of it in reporting to the Board of Managers of that organization at the close of 1943: "No program of the Council of State Governments has been more generally adopted or has yielded more results in so short a time."

FISCAL POSITION OF THE STATES

Today, the states are generally in a strong fiscal position. Since Jan. 1, 1943, the state governments have invested $1,500,000,000 of surplus funds in government bonds and have reduced their gross indebtedness about $1,000,000,000, or 17½ per cent. Every state has a good surplus. Collectively those surpluses amount to $1,000,000,000. In accordance with the recommendations of the Council, the states generally have not reduced their tax rates and have tried to keep up the level of their taxes. As a result, it is estimated that total state tax collections in 1943 may reach $5,000,000,000 with increased payroll taxes more than offsetting the decreased revenue from gas taxes. It is interesting to note that Federal grants to the states have at the same time decreased 40 per cent. In addition, the states have $4,500,000,000 in unemployment compensation reserve funds.

It should be noted, however, that in

many states reserves in this vital category are not adequate. The Council has accordingly recommended that the states at least maintain their present unemployment compensation rates and, if possible, increase them in order to build sufficient reserves. In line with this recommendation about 12 states have now established rates more in proportion to wartime increases in wages and adequate to meet the potential post-war burden. Another potential flaw in the fiscal picture from the point of view of the states is the financial weakness of the cities owing to their limited tax base. Continuance of this condition might again renew in the post-war era the depression trend towards the building of direct relationships between the cities in search of financial aid and the National Government, even though the states have been generally successful in maintaining their position as the intermediate level of government during the defense and war periods.

Besides their financial preparedness to step into the economic breach at the close of the war with public works and public purchases, the states seem to possess other elements of strength. State governments generally seem to be in good administrative condition and to be fortunate in the possession of good leadership at this critical time. Moreover, the states, through the Council, are better organized than ever before.

STATE POST-WAR PLANNING

The states are taking constructive steps to meet the post-war situation. The Council of State Governments has initiated joint post-war planning on the part of the states. Following four regional conferences of state officials, an Interstate Committee on Post-war Reconstruction and Development was formed, consisting of representatives of these various regions. Through that Committee, the Council has issued a series of recommendations on post-war problems in the states. Every state, in accordance with those recommendations, has designated a planning agency to work on post-war reconstruction and development. In general, the Council in charting post-war developments is following the principles it has asserted so vigorously in connection with the war effort, namely, that in all services and programs involving cooperation between the national, state, and local levels, policies and programs be developed cooperatively, general policies determined by Congress should be set forth in the Federal statutes so that the respective parts of the program to be performed by the several levels of government are clearly defined, immediate supervision and direction of the program should be in the hands of the states and responsibility for local operation should be given to the localities. All levels of government should participate in financing. Through its committees of state officials on various subjects the Council is now developing reports on definite post-war programs in many fields for submission to the states.

Another encouraging development with respect to the post-war position of the states in our Federal system was the report of the Federal Committee on Intergovernmental Fiscal Relations to the Secretary of the Treasury. Intergovernmental competition for tax revenue with its resultant conflicts and multiple taxation has been an increasingly serious problem since the last war, reaching new heights during the depression with its consequent shrinkage of tax revenues. The underlying cause of this problem is, of course, the fact that ours is a Federal system of government. Yet, it is clear that the problem can be mitigated by cooperation among the various units of government. The Council of State Governments has long urged such cooperation but the National Government, with its advantageous position in taxation, had not until the creation of this Committee of experts in 1941, indicated much willingness to join with the states in seeking a solution. The central theme of the Committee's report that in our federalism intergovernmental problems in the tax field could only be solved by "coordination and cooperation rather than subordination and coercion" is a recognition of the potentialities of national-state and interstate cooperation. The Federal committee also recognized the necessity for intergovernmental machinery to implement cooperation in its recommendation for the establishment of a Federal-state fiscal authority financed jointly by the National Government and the states to act as a medium for the development of a program of cooperation.

DEVELOPMENT OF INTERSTATE COOPERATION

The foundation for the progress in national-state cooperation and the successful achievements in interstate cooperation that in recent years have introduced a new theme in American federalism is, of course, the establishment of the machinery for cooperation among the states represented by the Council of State Governments and the State Commissions on Interstate Cooperation. These Commissions, now established in 44 states, are the official negotiating agencies of their respective governments in national-state and interstate relations, representative of both houses of the legislature and of the executive branch, thus assuring integration within the state governments in its negotiations with other governments. The rapid extension of Council activities and the increasing effectiveness of its operations are the primary factors in the increasingly successful record of interstate cooperation.

The effectiveness of the Council organization varies in different regions of the United States. The Northeast has made the most rapid progress in interstate cooperation not only because of its more favorable conditions, *i.e.*, easier traveling, stronger states, and greater wealth, but also because the Council has older and deeper roots in this region, having long maintained a regional office in New York which serves as a continuing liaison agency for the northeastern states. The Council has recently established a regional office in San Francisco to serve the Pacific Coast states. The Washington Office acts as a regional office for the Southern States and the Central Office in Chicago performs the same service for the Middle West.

While the effectiveness of the State Commissions on Interstate Cooperation is spreading slowly from the Northeast to other sections of the country, it is evident that in some areas this state agency has not yet achieved the recognized position, nor the prominence it has attained in the Northeast. This is illustrated by the action of the 1943 sessions of the Georgia and Florida legislatures in creating special committees to deal with matters affecting the two states, despite the fact that both states have Commissions on Interstate Cooperation. Possibly, this is due in part to the tendency of the Council during the war emergency to work primarily through the governors in some regions. Nevertheless, the State Commissions on Interstate Cooperation are generally being increasingly recognized as important and useful agencies of state government.

There is some evidence, also, that projects of interstate cooperation are being initiated in some sections of the country outside the existing machinery of cooperation. This is evidenced particularly in the recent river basin compacts and compact negotiations in the western area. The increasing preoccupation of the Council with national-state relations necessitated by the course of events undoubtedly contributed to this situation. Indeed, this development bears witness to the constantly growing vigor of the movement for interstate cooperation. Further evidence of that strength may be adduced from the fact that almost all the states are now contributing to the support of the Council of State Governments and that most of them have materially increased their appropriations during 1943. It seems certain that within the next two years the Council will have achieved its goal of being entirely supported by the states. The Council of State Governments, established 18 years ago as the American Legislators Association, has grown and expanded until it is the one organization in the country representing the state governments. Within it are affiliated the Governors' Conference, National Association of Attorneys-General, National Association of Secretaries of State, and now it is affiliated with the National Conference of Commissioners on Uniform State Laws.

UNIFORM STATE LAWS

In 1940 the National Conference of Commissioners on Uniform State Laws joined its efforts with those of the Council in order that its recommended proposals for uniform laws might be presented to the state legislatures through the machinery of the Council of State Governments. In 1943 that arrangement was made a permanent relationship. The Conference since it was founded in 1892 has been very effective in the drafting of uniform laws. It had been much less successful in securing the enactment of its model measures by the states owing to the lack of any organic relationship of the Commissioners to the governments of the states. The Commissions on Interstate Cooperation, on the other hand, as official agencies of the states with legislative and administrative members, provide the necessary relationship and have, in consequence, been more effective in securing the adoption of their recommendations.

The record of enactment of uniform laws by the states has reached new highs since the Council and the National Conference combined their efforts. From the time of the founding of the National Conference of Commissioners on Uniform State Laws over 800 of these measures have been placed on the statute books of the 48 states. Of this number, more than 60 were enacted by state legislatures in 1943. Despite legislative preoccupation with the war, nearly as many uniform laws were adopted in 1943 as in 1941. The Conference now has on its program 65 model uniform laws relating to approximately 50 different subjects. The largest number are designed to facilitate business and trade which in the past have been hampered by statutory differences among the states; others pertain to social questions, and some recently drafted by the Conference deal with wartime problems. Under the permanent relationship now established between the uniform law commissioners and the Council, the National Conference will function as the drafting agency for the interstate machinery and the Council and its component Commissions on Interstate Cooperation will serve as the channel for securing enactment by the state governments.

INTERSTATE COMPACTS

Widening progress in the enactment of uniform state laws has been paralleled by increasing use of another medium for interstate action, the interstate compact. Despite the fact that provision for interstate compacts is contained in the United States Constitution as adopted in 1789, there were relatively few instances of their use until after the First World War. While the compact was originally used principally as a method for settling boundary disputes, its use has been extended in recent years to such matters as the conservation of oil and fisheries and the supervision of out-of-state parolees. It is interesting to note that it is still being used to settle boundary disputes. During 1943, the long standing Kentucky-Indiana boundary dispute was settled by a compact between those two states. Iowa and Nebraska likewise settled a boundary matter by this method. Congress granted its consent to the formation of an interstate compact between Kentucky, Tennessee, and Virginia providing for the acquisition of certain lands to be added to the Cumberland Gap Historical National Park.

It is significant that Congress, in extending the Interstate Oil Compact, to which 12 states are now parties, increased the period of consent from two years, as was usual in the case of that compact, to four years. Activity in the settlement of interstate river disputes was notable among the western states with Congress granting its consent to an interstate compact between South Dakota and Wyoming with respect to the Belle Fouche River and to a compact entered into between Colorado, Kansas, and Nebraska to promote flood control and beneficial consumptive use of the waters of the Republican River. Consideration is also being given to the possibility of a compact between Montana, Wyoming, and North Dakota respecting the Yellowstone River. The states of the Missouri River Valley, under the auspices of the Council of State Governments, have established a committee to study the problems of that river basin.

The Republican River Compact is especially interesting. It was vetoed originally by the President in 1942 on the theory that its acceptance would restrict the authority of the United States to construct irrigation works and appropriate water for irrigation purposes. This seems to be the first time that a compact was actually vetoed by the President, although such action was effectively threatened with respect to the Connecticut and Merrimac River compacts proposed some years ago. As finally enacted into law in 1943, the Republican River Compact represents a new approach in integrating state and national action with respect to a river basin. It seems clear that the possibilities of the interstate compact device as a means of integrating governmental action have not as yet been fully explored. It should be added that New York is expected to become a party to the Interstate Parolee Compact, the thirty-eighth state to join in that instrument, which has been ratified by the largest number of states of any compact in the history of the union.

FISHERIES

One of the most noteworthy compacts of recent years is the Atlantic States Marine Fisheries Compact. Georgia and Pennsylvania, in their 1943 sessions, joined Maine, New Hampshire, Massachusetts, Rhode Island, New York, New Jersey, Delaware, Maryland, Virginia, and South Carolina in the ratification of that document. Of the states that are eligible, only Connecticut, North Carolina, and Florida have yet to join. The compact established the Atlantic States Marine Fisheries Commission, comprised of three representatives from each compacting state. This body is authorized to recommend measures for the preservation of the fisheries to the governments of the cooperating states. Its importance is that it will provide an official interstate coordinating body and an official channel for recommendations to the several states. The Commission made notable progress during 1943.

On the Pacific Coast, consultations begun by Washington and Oregon with respect to the possibilities of joint state action to protect the salmon-runs of the Columbia River made slow but steady progress. It is a hopeful sign that Idaho for the first time has now joined in these deliberations.

Following the report of the International Board of Inquiry on the Great Lakes Fisheries, a body created by the United States and Canada, after initiation of the project by the states through the Council of State Governments, the State Department has been studying the problem of the Great Lakes fisheries. It is indicated that efforts will be made to secure cooperative efforts by the two federal governments, together with the governments of the lake states and the Province of Ontario, in solving the problem of these fisheries.

INTERSTATE COMMISSIONS

The impact of the war with its resultant scarcity of materials has tended to delay projects for the abatement of pollution through the building of sewage or other disposal plants. This factor continues to affect the work of three important interstate commissions—Interstate Sanitation Commission, established by compact between New York, New

Jersey, and Connecticut to handle the pollution problems of New York Harbor and adjacent waters; Interstate Commission on the Potomac River Basin, established by an interstate compact among Maryland, Virginia, West Virginia, and the District of Columbia in an effort to alleviate the pollution of the Potomac; and Interstate Commissions on the Delaware River Basin, a joint agency of the Commissions on Interstate Cooperation of Pennsylvania, New York, New Jersey, and Delaware, created to seek some solution of the problems of the Delaware River.

In the case of the Delaware, however, notable progress was made with respect to another problem of that river basin-allocation of potable water among New York, Pennsylvania, and New Jersey, long a source of interstate friction. Legislation embodying a plan for settlement was enacted by the 1943 sessions of the legislatures of Pennsylvania and New York. New Jersey, as yet, has not acted. Unfortunately, the legislature of Pennsylvania again failed to ratify the Ohio River Compact which has been accepted by most of the states of that river basin. Ratification by Pennsylvania would put the compact in effect.

CONCLUSIONS

It is becoming increasingly difficult to separate national-state from interstate relationships. Since the states have become organized through the Council, national-state relationships have implied joint action. For instance, the proposals for Federal regulation of the forests have occasioned efforts upon the part of the states acting jointly to meet the problem. While the model state forestry legislation suggested in the Northeast made very little progress at the 1943 legislative sessions in that region, a forestry committee of the Council of State Governments is now working on the problem of effective state forest regulation on behalf of all the states. Similarly the proposals for federalization of unemployment insurance have undoubtedly been a motivating force in bringing about cooperative state action to eliminate interstate complications in that field. For instance, some 42 state laws now authorize cooperative interstate arrangements for combining benefit credits in the case of the multi-state worker, and the states have been developing a suitable "combining" plan which many of them will undoubtedly adopt. On the other hand, Federal proposals for an expanded system of social security have embodied the principle of variable grants as between the states with respect to general assistance as recommended by the Committee on Social Welfare and Relief of the Council of State Governments. National-state cooperation formerly took the form of state cooperation in the carrying out of national policy. As a result of their organization, the states are now beginning to play a part in the making of those policies.

STATE CONSTITUTIONS, REFERENDA AND INITIATIVES

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GENERAL

Direct popular participation in state law making remained at a relatively low ebb in 1943, owing in large part, no doubt, to the wartime emphasis on international and national problems. Forty-one proposals were voted on in seven states. At no time since 1925 has the number of states concerned been smaller, and at no time since 1931 have so few questions been submitted to the voters. However, the number of states concerned was the same as in 1941, and outside of Georgia, which accounted for most of the voter participation in both of these off-years, the number of questions submitted was likewise the same.

All of the questions on state ballots in 1943 were proposed by the state legislatures, and all pertained to the amendment or revision of state constitutions. In four states, New York, New Jersey, Kentucky and Pennsylvania, the popular votes were taken on the regular election day in November. Georgia, Michigan and Missouri voted on constitutional amendments during the first week in April. At the same time delegates were elected to the Missouri constitutional convention, which had been called by popular vote in 1942.

Only three of the 41 proposals were defeated at the polls. The voters of Kentucky rejected decisively both of the amendments proposed by their representatives, and those of New York voted in the negative on one of the six proposed changes in their state constitution. On all other questions the legislative proposals were approved.

CONSTITUTIONAL AMENDMENTS IN GEORGIA

As in other recent off-year elections, the Georgia ballot contained well over half of the state questions voted upon. Twenty-eight constitutional amendments submitted by the Georgia state legislature were approved by the voters in April. Twelve of those measures were in the nature of local legislation; they applied to certain specified cities and counties only. Of the remaining 16 amendments, six dealt with the organization and powers of the executive branch of government, two with the legislative branch, one with the judiciary, and one with the electorate.

An interesting feature of the Georgia balloting was the relative uniformity of the vote cast on all of the constitutional amendments. On most of the questions the favorable vote varied between 45,000 and 50,000, and the opposing vote, between 12,000 and 14,000. The largest vote for any amendment was 52,539, and the largest vote against any amendment was 19,682 (the last being in opposition to the reduced voting age). One is led to speculate whether the average voter, when confronted with a large number of proposals, does not tend to vote for or against the entire group rather than consider each question independently.

CONSTITUTIONAL REVISION IN NEW JERSEY

A somewhat irregular method of changing a state constitution passed its first hurdle when the voters of New Jersey approved a "public question" whereby the legislature elected in 1943 is authorized to prepare and submit to the voters a revised constitution for the state. The action was deemed necessary because of the fact that the present New Jersey constitution contains no provision for a constitutional convention or for any other method of making a general constitutional revision. Specific amendments may be submitted to the voters after adoption and approval by a majority vote in two successive legislatures, but even then the proposals must be submitted in such manner that the voters have an opportunity to approve or disapprove each one "separately and distinctly." The "public question" approved in 1943 authorizes the legislature, by a majority vote of the members elected to each house, to submit a revised constitution to the voters in 1944. The authorization specifically provides that the new constitution "shall include the provisions of Article I of the present Constitution, commonly known as 'The Bill of Rights,' and shall include provision for a Senate composed of one Senator from each county and a General Assembly composed of not more than sixty members apportioned among the counties as provided by the present Constitution so that each county shall at all times be entitled to one member."

The irregular procedure is justified in the preamble to the legislative act on the two grounds that "All political power in the State of New Jersey is inherent in the people of the State," and that "The Legislature, having all the legislative powers of the people which are not prohibited to it by the Constitution of the State and the Constitution of the United States, alone has the power to provide for the manner in which and the time at which the people may exercise their right to alter or reform the Constitution of the State, which right is limited only in cases where specific amendment or amendments to the Constitution of the State are proposed."

It is entirely possible that this view will be challenged in court. The plan seeks not only to circumvent the requirement that amendments be voted on separately, but also to eliminate the necessity of a second approval by the legislature itself. However, if the procedure is not contested until after the revised constitution has been approved, there is ample precedent in New Jersey for the court to hold that it can not overrule the positive wishes of the electorate. (*Bott v. Wurts,* 63 N.J.L. 289, 43 A. 744,881 [1899]).

LEGISLATIVE SESSIONS AND MEMBERSHIP

In addition to the amendments which altered the powers of the legislature, either by direct grant or by indirect restriction, five of the proposed amendments were concerned with the legislative branch of state governments. The 28 amendments to the constitution of Georgia include a change in the provision for legislative sessions and also a change in the provisions for compensation and mileage allowances of legislators. The voters of New York approved an amendment under which residence in a county will hereafter be sufficient to qualify for election from any legislative district in that county at the first election after a readjustment or alteration of the districts, but the New York legislature failed to win approval of a proposal which would make certain exceptions to the requirement that no town shall be divided in the formation of assembly districts.

By means of what appears to be a minor change in the state constitution, the voters of Missouri have opened the way to longer sessions of their legislature. In the past legislative acts, other than emergency bills adopted by a two-thirds vote of each house, became effective 90 days after the close of the session. Under the new provision the effective date for new laws will be 90 days after the approval of each bill. Thus it will no longer be necessary for the legislature to adjourn in order to put its new enactments into operation.

ADMINISTRATIVE AND EXECUTIVE

An outstanding feature of the constitutional and legislative questions submitted to the voters in 1942 was the tendency to freeze the board type of organization into state administrations. This trend was continued in 1943, although all of the five amendments of that type occurred in one state. The voters of Georgia approved amendments whereby the board of regents of the university system, the state board of education, the public service commission, and the state game and fish commission become constitutional boards. In addition, the governor of that state was deprived of his power to grant pardons and reprieves, and a state board of pardons and paroles was created to exercise that authority.

A new department of commerce was created by amendment to the constitution of New York. This procedure was made necessary because of the previous designation of administrative departments in the state constitution.

Two other proposals, one passed and the other defeated, dealt primarily with the administrative branch of government. The Georgia constitution now requires that any civil service scheme established or maintained by the state or by any of its political subdivisions must provide for veterans' preferences on a basis equal to that provided under the present Federal civil service law. In Kentucky the voters held true to the usual tradition of refusing to remove constitutional limits on public salaries. The legislature had proposed to eliminate the $5,000 salary limit, which applies to all state and local officers except the governor, but the measure was overwhelmingly defeated at the polls.

JUDICIAL

Two changes were made in the constitutional rules applicable to the judicial branch of state government. An amendment to the Georgia constitution alters the methods whereby cases will be disposed of by the state supreme court and the court of appeals. The voters of New York approved an amendment extending and altering the appellate jurisdiction of the court of appeals. In both instances there is little doubt but that the voters approved measures which they did not understand. The Georgia ballot gave no clue to the nature of the proposed change in judicial processes, and it is very unlikely that the voting citizens read and understood the advance notices published in newspapers. The New York amendment was so highly technical that very few persons outside of the legal profession could be expected to understand it. There is reason to doubt whether popular control of government is enhanced by including in a constitution any but the most fundamental rules of court jurisdiction and procedure.

TAXATION AND FINANCE

The outstanding financial measure voted on in 1943 was an amendment which authorizes the legislature of New York to establish one or more revenue stabilization funds. When creating any such fund, the legislature is required to specify the taxes to which it shall apply and to prescribe the method of determining the amount of revenue that shall constitute a norm for each fiscal year. In succeeding years all revenues from the specified taxes in excess of the norm will be paid into the stabilization fund, to be made available in years when those taxes fail to produce the normal revenue. In order to prevent raids on the stabilization funds, the amendment provides that no law changing the method of determining a norm shall become effective until three years after the date of its enactment.

The 16 general amendments to the Georgia constitution include three which alter the power of the state and local governments to levy taxes and to expend tax revenues. Two of those amendments provide for teachers' retirement systems: one authorizes the state legislature and the governing bodies of cities and counties to levy taxes in order to provide retirement funds; the other provides for benefits under a state retirement system. The third financial amendment adopted by the same state exempts from the *ad valorem* and intangibles taxes the common voting stock of subsidiary corporations, provided that at least 90 per cent of that stock in any one case is owned by a Georgia corporation.

LOCAL GOVERNMENT

As pointed out above, 12 of the amendments to the Georgia constitution were in the nature of special legislation for certain cities or counties named therein. Two other amendments to the constitution of Georgia, and one amendment to the constitution of Michigan, dealt with local governments, although not with particular localities. One of the Georgia amendments provides for the consolidation of local school districts under certain conditions. The other provides that obligations incurred in anticipation of revenue shall not be deemed to create any debt against the political subdivisions by which they are issued. This change will serve to relax the constitutional and legislative limitations on local indebtedness. The amendment to the constitution of Michigan removed one of the vestiges of nineteenth century political ideas by extending the terms of elected township officers from one year to two.

THE ELECTORATE

The electoral laws of the states were changed by three constitutional amendments in 1943. The most far reaching and probably the most widely publicized constitutional amendment of the year, was that by which the voting age in Georgia was reduced from the traditional 21 years to 18. This was the first application of the theory that those who are called upon to fight for the nation should also have a voice in its government.

By comparison the other two electoral amendments were of minor importance. Hereafter changes in the electoral districts of Pennsylvania will be made in a manner provided by law instead of being determined by the court of quarter sessions, and a citizen of New York can now fulfill local residence requirements for voting if he has lived 90 days in a city or village even though he has not lived in the same county for that length of time. This change will be of benefit to residents of New York City and of other cities which do not lie entirely within a single county.

MISCELLANEOUS AMENDMENTS

The remaining amendments voted on in 1943 relate to compensation for disabled workers, divorces for persons in military service, and the alienation of property without a spouse's signature. The voters of Kentucky refused to give their representatives power to enact a compulsory workmen's compensation law. Georgia will now permit a person who has been a resident of a military post in the state for one year to sue for divorce in any county adjacent to that post. Michigan will permit the alienation of homestead lands by mortgage without the signature of the spouse, provided that such mortgage has been in force for 25 years and no claim of invalidity has been made in that time.

CONCLUSION

It may be significant that the three proposals which were defeated had as their common feature the elimination or relaxation of constitutional limitations on legislative power. Apparently the voters were more willing to incorporate specific legislation in their constitutions, and to grant authority to legislate in specific ways on specific matters, than they were to broaden the legislative authority. Obviously such a policy tends to produce long constitutions and technical constitutional details that have little or no meaning to the average citizen. In view of this trend, one may well ask whether the state constitution will continue to serve as an instrument of general public control over government, or whether it may tend to become, instead, a device whereby special interest groups, each concerned with and fully cognizant of a restricted group of constitutional rules, may be able to acquire and preserve their own particular rights and privileges.

ELECTORAL LEGISLATION

By O. Douglas Weeks
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GENERAL

Electoral legislation was enacted in 41 states during 1943, the most noteworthy changes involving voting arrangements for persons in the armed services. Indiana, Maryland, and Vermont created commissions to revise and codify their election laws. California repealed a number of duplicating sections and Illinois codified and consolidated 29 existing statutes dealing with registration, primaries, and elections.

PRIMARIES AND PARTY ORGANIZATION

New Mexico overhauled her primary law in several important respects: substituting registration of party affiliation for a challenge system; barring as candidates those who change their party affiliation within 12 months preceding a primary election; requiring signers of nomination petitions to be registered party members; throwing around the primary the safeguards of the general election, etc. Pre-primary and post-primary conventions were established in Nebraska. The names of all candidates who receive at least 25 per cent of state and congressional district pre-primary convention votes are to appear on the primary ballot, those of the two highest at the top of the list as "endorsed" candidates. State, district and county post-primary conventions will perform the usual routine convention functions under a direct primary system. Revival of the run-off primary in Oklahoma will be referred to the voters in 1944.

The time of holding primary elections was changed slightly in Maryland and New Hampshire and was moved from September to June in New Mexico. Arrangements as to filing for candidacy were altered in various respects in California, Illinois, Massachusetts, Michigan, Pennsylvania, Tennessee, Texas, Vermont, and West Virginia. Primary candidates in Michigan may file for only one office and in Maryland and Wisconsin may run in the primary of only one party. Safeguards against deception caused by changed, similar, and fictitious candidates' names were enacted in Ohio, Oklahoma, and Washington. Montana repealed her requirement that an officeholder resign one office before running for another; Texas forbade executive and administrative officeholders, both elective and appointive, to run for any other public office the term of which would begin before the expiration of the term of the office held. New provisions for filling vacant candidacies both before and after the primary were enacted in Kansas, Maryland, Massachusetts, Oklahoma, Pennsylvania, and Vermont. Miscellaneous amendments as to the general conduct of primary elections, the canvassing of returns, and the certification of candidates were made in 14 states.

Some ten states legislated with respect to party organization, conventions, and executive committees. South Carolina made every political party the "sole judge of qualifications of its members" subject to appeal to the State Supreme Court. California denied parties falling below 1/10 of 1 per cent of state registration participation in the primary; Georgia barred from the general election ballot parties failing to poll 5 per cent of the total vote in the last general election; Oklahoma repealed her discriminatory provision against small parties. Michigan made the holding of state party conventions mandatory in presidential election years. Minnesota, Nebraska, North Dakota, Oregon, and Washington altered provisions with respect to national, state, or local party executive committees.

CONDUCT OF ELECTIONS—CORRUPT PRACTICES

Twenty states in all parts of the country made many miscellaneous changes, mostly of a minor character, in their provisions for election administration, duties and compensation of election officials, voting precincts, polling times, ballot forms, assistance to voters, making and canvassing returns, certification of candidates, and recounts. Most significant were the adoptions of the presidential short ballot by Colorado, Delaware, and New Hampshire. Michigan provided for a separate presidential ballot; Oklahoma for three separate ballots —county, state, and congressional; Minnesota some changes in her nonpartisan ballot. New Hampshire authorized the use of voting machines by any town or city under the supervision of the Ballot Law Commission. Amendments as to details in the voting machine laws of six other states were enacted. Wisconsin made more adequate provision for filling vacancies in the offices of governor and lieutenant governor.

A considerable amount of corrupt-practices legislation was passed in a dozen states. California prohibited political soliciting, etc., in connection with licensing of all types; Massachusetts forbade financial institutions and public utility corporations to publish and circulate material in referendum campaigns in which their interests are involved and required reports of their contributions in such campaigns; Wisconsin clarified her prohibitions of corporation contributions. Georgia limited campaign expenses of all candidates for state offices to $25,000; Massachusetts limited contributions by individuals to $1,000. South Carolina and South Dakota required that all published campaign material should bear the true name of the author. Arizona, Massachusetts, and West Virginia included radio broadcasting among their permissible campaign expenditures.

SUFFRAGE AND REGISTRATION

Georgia amended her constitution to extend the suffrage to citizens 18 years old and upwards. Tennessee repealed the poll tax as a qualification for voting. Texas granted exemption from the poll tax as a voting requirement to all persons in the armed services, to become effective, however, only at the restoration of peace and operative only for one year thereafter.

General registration requirements affecting all voters were enacted in 13 states, involving in most cases changes merely in matters of administrative organization and procedural detail. Tennessee substituted statewide permanent registration for a two-year periodic system; Utah provided for continuous registration throughout the year; a few states made minor extensions of their regular registration systems.

Special absent registration procedures applying to voters in the armed or auxiliary services or in war work were enacted or altered in 14 states. Eight states forbade cancellation of registration because of absence in the armed forces; Indiana, Montana, North Carolina, and West Virginia provided for absent registration in case of such absence. Montana required the Secretary of State to keep a general register of voters and to revise it at frequent periods: Massachusetts and Missouri suspended registration formalities.

ABSENT VOTING

New Hampshire provided for general absent voting in biennial elections; Delaware enacted a new law to replace provisions of a previous law held unconstitutional; Kansas substituted a new form of absent ballot for absentees voting within the state and altered the procedure for those voting outside the state; and Washington extended absent voting to all elections. Montana, Nebraska and North Carolina made provision for disabled voters. Six other states amended their normal absent voting laws as to details.

Eighteen states enacted or amended absent voting laws affecting voters in the armed and auxiliary services. Minnesota, North Carolina, and Oregon delegated broad powers to state election officials to adjust state arrangements to present the future Congressional requirements. Illinois and Missouri provided that the official ballots authorized by Congress in 1942 for Federal elections should also include state and local elections and referenda. Kansas, Massachusetts, Minnesota, Missouri, Montana, Nebraska and North Carolina enacted new legislation on the subject.

The other states amended their laws mainly with a view to facilitating absent voting in the armed services. Minnesota, Missouri, Montana and North Carolina vested their secretaries of state with ample powers to administer their systems, the Missouri arrangements being contingent, however, upon the Federal Government bearing the expense. Montana allowed a final canvass as late as January following the general election. Massachusetts and Missouri permitted close relatives of those in the armed forces to apply for their absent ballots. Most amendments were designed to relax formalities of procedure and to allow more time for the preparation of ballots, the receipt of applications, and the return of voted ballots. New York extended her 1942 law providing for a temporary state war ballot commission with slight amendments to apply in 1943. Connecticut is to have a special session of the legislature early in 1944 to amend the election law so as to assure servicemen and war workers a chance to vote in the next elections. South Carolina repealed her absent voting law of 1942 applying to persons in the armed forces and war work.

REFERENDA AND LOCAL LEGISLATION

Constitutional amendments affecting electoral arrangements were initiated or ratified in 1943 in seven states: Alabama—to exempt all in military service from the poll tax; Connecticut—to provide for quadrennial state elections by 1950; Georgia—to establish an 18 year-old voting minimum, and to allow for elections in odd-numbered years to fill vacancies and pass upon referenda; Michigan—to permit legislators to run for other state offices without resigning, provided terms do not overlap, and to extend terms of township officers to two years; Montana—to increase terms of certain county officers to four years; New York—three minor changes affecting city, village, and legislative elections; and Oregon—to substitute "mentally diseased" for "insane" in the suffrage disqualifications.

Legislation affecting initiative and referendum petitions was enacted in California and Massachusetts. Local laws were passed in Alabama, Kansas, Maine, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New York, Texas, and Washington which were largely concerned with municipal elections.

COUNTY GOVERNMENT

By Virginia Russell

The Council of State Governments

REFORM AND REORGANIZATION MOVEMENTS

Laws enacted by a number of the 46 state legislatures meeting in regular and special session in 1943 gave recognition to the ever-increasing demand for greater efficiency in county government. The primary emphasis continued to be on war measures, but proposals for county government reform and reorganization were also considered. One illustration of the interest in county reorganization is the plan being developed by county officials in Michigan to establish an institute "to seek perfection in local government and serve as its defender from critics and from encroachments by state and federal governments." The institute would be incorporated as a non-profit corporation of groups of county officials, with funds derived from membership fees rather than from tax monies. The plan was suggested to and endorsed by organizations of Michigan county officials at annual meetings in 1943. Final approval or disapproval of the tentative organization will be voiced at the 1944 county conventions.

COUNTIES AND THE WAR

In 1942, the Drafting Committee of the Council of State Governments, with the assistance of various Federal agencies, prepared a program of suggested state war legislation to be considered by the states in the light of local needs and adapted to fit local situations. The acts of particular interest to counties included in this program were the Air Raid Precautions Act, Mobilization for Fire Defense Act, Military Traffic Control Act, and the Emergency Health and Sanitation Areas Act. In 1943, these acts were combined in the Emergency War Powers Act, which was adopted in some 29 states.

LOCAL POST-WAR RESERVE FUNDS AND PLANNING ACT

Included in the 1942 program was the Local Post-War Reserve Funds and Planning Act. This legislation is permissive, allowing local governments to provide reserves out of which local construction may be financed after the war. The act allows surpluses, resulting from the reduction in current construction and maintenance projects, to be accumulated to meet the abnormal post-war demand for public works construction and to help soften the impact of unemployment in the transition period from war to peace. The Local Post-War Reserve Funds and Planning Act includes a section providing for the establishment of a planning agency to develop long-range public works programs, and numerous counties and municipalities in the 16 states which have enacted the legislation are setting up such agencies where they are needed. Previously established county planning commissions are also developing programs to meet post-war needs.

Rochester, N. Y. and Monroe County have established a post-war council to study the present status of its governmental, economic, and social organization, and to formulate plans to meet whatever situations may arise in the community as a result of the war and post-war transition period. Shelby County, Tenn. and Memphis are developing joint plans for a present and post-war public works program. Their plans include slum clearance projects, the construction and improvement of schools, libraries, medical clinics, and so forth.

Knoxville and Knox County, Tenn. have established a joint post-war planning committee to determine projects to be developed in the post-war period. The San Mateo County, Calif. Planning Commission, aided by the Federal Works Agency and the National Resources Planning Board, undertook the preparation of a post-war public works program which is now awaiting the approval of the Board of Supervisors. St. Louis County, Minnesota has been given the authority to accumulate surpluses from the road and bridge fund for a post-war public works fund for towns and villages after the war.

INVESTMENT OF PUBLIC FUNDS ACT

The 1943 program of state war legislation included the Investment of Public Funds Act, drafted by the Tax Committee of the Council of State Governments. The purpose of this act is to enable the states and localities, which do not already have the power, to invest in Federal Government obligations the balances of public funds not needed for current operating requirements. Such investments will aid the Federal Government's efforts to prevent inflation and will, at the same time, enable state and local governments to maintain an available backlog of assets during the war and a cushion against heavy financial demands after the war. This act was adopted by nine states in 1943, and many county governments are taking advantage of its provisions.

MERIT SYSTEMS

According to the Civil Service Assembly records, three counties adopted civil service laws during 1943—Fresno County, Calif., Davidson County, Tenn., and Fulton County, Ga. This brings the total number of counties now operating under the merit system to 229.

MINNESOTA

The Ramsay County Act (Chapter 513, Laws of 1941) which was approved by a majority of 37,645 to 8,014 at the November election in 1942, provides for a three-member Civil Service Commission, the members to be appointed by the Board of County Commissioners for six-year overlapping terms. Civil Service rules made by this body with the assistance of a Civil Service Administrator, are subject to approval by the County

Board. The law gives the Civil Service Commission appellate and investigatory powers in addition to rule-making authority.

The St. Louis County Act (Chapter 423, Laws of 1941) adopted at the same election, provides for a like Commission of three members. A director appointed by the Commission is empowered to recommend rules for adoption by the Commission. One of the important duties of this body is to hear appeals or complaints concerning the administrative work of the director, and to conduct investigations concerning the enforcement of the County Act.

CALIFORNIA AND TENNESSEE

Los Angeles County has relaxed its merit requirements and now gives special examinations with lowered requirements. Employees who are hired from resultant lists, however, are not eligible for retirement. The minimum age limit previously required has also been waived. The legislation passed in Tennessee providing a civil service system for Davidson County carried a companion measure which authorizes a pension system for county employees.

WISCONSIN AND GEORGIA

A law enacted in Wisconsin (Chapter 186, Laws of 1943) provides that any county may establish a civil service system of selection, tenure, status and pensions. Act 60, HR 146, passed by the 1943 Georgia Legislature provides for a constitutional amendment prohibiting the state or any one of its subdivisions from setting up a civil service system or merit system that does not extend preference to veterans of any war, as afforded by the U. S. Civil Service Regulations. This measure must be voted on by the people at the next general election.

ALABAMA

H832, enacted into law in Alabama, amends the provisions of Jefferson County's Civil Service System with regard to the authority of the Personnel Board, Citizens Supervisory Commission, and duties of the personnel director. It increases from 21 to 23 the number of Commission members, and provides that the two additional members shall be elected by and from the classified employees, one by county employees and one by municipal employees; it gives the Commission authority to review and revoke any changes in rules and regulations made by the Personnel Board, and clarifies the Commission's authority to make wage adjustments.

OPTIONAL FORMS OF COUNTY GOVERNMENT IN WISCONSIN

Joint Resolution H4A, adopted by the Wisconsin Legislature in 1943, repeals the constitutional provision requiring the uniformity of county governments by allowing the Legislature to provide, by general law, for the government of counties, and to provide optional systems of county government to be chosen by popular vote. The amendment also permits the appointment, or abolition, of certain county officers which are now elected. This resolution must be passed by the 1945 Legislature and then submitted to the voters for final adoption. A similar amendment was adopted in a previous legislative session, but was allowed to die the following year.

COUNTY MANAGER PLANS

The Oregon Legislature has adopted a Resolution giving authority to provide for the adoption of a manager plan in any county by popular vote. This amendment must be submitted to the voters for their approval at the next general or special election.

Hamilton County, Tenn. residents have indicated their approval of their recently instituted Manager Plan. Since its institution, the finances of the county have been improved, the accounting system modernized, the tax rate cut slightly, and services rendered to the citizens of the county have been expanded and improved.

Knox County, Tenn. will wait another year to vote on the reorganization of county government. Two of the reasons advanced for the delay are, first, that the present system is satisfactory, and, second, that wartime is not a good time to change the governmental structure. The modified manager plan proposed for this county would abolish the Board of County Commissioners, a secondary governing board set up in 1937, and vest all county affairs in the hands of the Quarterly County Court, membership of which would be reduced from 38 to five members. The plan provides that a county executive be appointed by the County Court on a merit basis. All administrative officials whose election is not required by the state constitution would be appointed by the county executive, subject to civil service regulations. The responsibility for county functions would be given to departments, and such new departments as are necessary would be established. Proponents of the plan feel that the streamlining of their present system in this fashion would result in a much less cumbersome structure of government, and allow the functions of the county to be carried on more efficiently.

HOME RULE IN MONTGOMERY COUNTY, MARYLAND

Montgomery County voters will ballot on a home rule county charter at the November, 1944 election, and the charter, if approved, will become effective 30 days after the election. The new charter would give the county maximum powers and broad authority. It would establish a County Council of nine members with legislative powers "to enact public local laws for the county and repeal or amend local laws heretofore enacted by the Maryland General Assembly." The Council would be empowered to appoint a county manager, county attorney, and personnel board, and to consult with the manager on other major appointments. This is an important departure from the status of other Maryland counties, and its progress will be watched with particular interest since the nation's capital is adjacent to this area.

HOME RULE IN WAYNE COUNTY, MICHIGAN

As reported previously, the home rule amendment for Wayne County was defeated by a vote of 455,320 to 432,164. Since the vote was so close, it seems likely that an effort will be made in the 1944 election to resubmit the same or a similar amendment. Citizens' groups interested in the amendment are continuing their educational campaign in the hope that a better coordinated effort in 1944 will bring successful results.

INTERLEVEL COOPERATION

Legislation authorizing interlevel agreements between Federal, state, county, and municipal authorities was passed in a number of states, the purpose of which, in many instances, was to facilitate war and defense activities. Many counties now may contribute funds to state, local, or Federal defense agencies; some counties have been authorized to loan equipment and accept Federal grants and loans of property for defense purposes. Others are forming regional housing authorities, primarily to provide for the housing of war workers. States, counties, and cities have cooperated in the survey, construction, improvement, and maintenance of state and county roads. A new Minnesota law authorizes any two or more governmental units to make agreements for the joint exercise of any power common to them.

Progress has been made in eliminating duplication of health and welfare functions by county and local agencies through the establishment of joint county or county-city boards of health. One example of this type of cooperation is the merger of the Knoxville, Tenn. Bureau of Health and the Knox County Health Department which took place on July 1, 1943. This type of consolidation has already proved successful in the Jefferson County, Tenn. and Louisville joint health agency, and in the health department serving Dade County, Florida and all cities located therein. Such consolidations have resulted in the elimination of overlapping functions and in extended services to provide better health protection, both in urban and rural areas.

PERIODICAL PUBLICATIONS

National County
American County Association, Hotel La Salle, Chicago.
National Municipal Review
299 Broadway, New York City.
Public Works
310 East 45th Street, New York City.
State Government
Council of State Governments, 1313 East 60th St., Chicago.
The Book of the States
Council of State Governments, 1313 E. 60th St., Chicago.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN LEGISLATORS ASSN., 1313 E. 60th St., Chicago.
CIVIL SERVICE FORUM, 2 Lafayette St., New York City.
CIVIL SERVICE ASSEMBLY, 1313 E. 60th St., Chicago.
COUNCIL OF STATE GOVERNMENTS, 1313 E. 60th St., Chicago.
INSTITUTE OF LOCAL AND STATE GOVERNMENT, University of Pennsylvania, Philadelphia.
NATIONAL ASSN. FOR CONSTITUTIONAL GOVERNMENT, 716 Colorado Bldg., Washington, D. C.
NATIONAL CIVIL SERVICE REFORM LEAGUE, 521 Fifth Ave., New York City.
NATIONAL MUNICIPAL LEAGUE, 299 Broadway, New York City.

DIVISION V

MUNICIPAL GOVERNMENT

NEW YORK CITY AFFAIRS

By George H. Hallett, Jr.
Secretary, Citizens Union of the City of New York

WAR PROBLEMS

War conditions continued to present grave problems to New York City throughout 1943, though the major adjustment to meet them had been made the year before. Mayor Fiorello H. La Guardia and his administration spent a great deal of time and effort on the critical problems of food supply, fuel, and price and rent control. Since the city had only limited powers in these matters, much of the effort went into negotiations with and pressure on the Federal Government and into serving the voluntary cooperation of operators and the public.

There were temporary shortages in meat, butter, milk, and other food staples, and worse difficulties were threatened, but the city survived the year without any really serious food deficiencies. Suggestions by the League of Women Voters and others that the Commissioner of Markets or someone else be made a director of food supply for the city were disregarded. The Mayor took a special interest in the matter himself, and preferred to keep the reins in his own hands. The cost of food and other necessities continued to increase, and constant efforts by the Mayor as well as the O.P.A. to keep dealers within ceiling prices with the cooperation of the buying public were only partly successful.

RENT CONTROL

The Mayor led a persistent and eventually successful campaign to get the Federal Government to impose mandatory rent control in New York City. Many real estate leaders tried hard to prevent this by imposition of voluntary restrictions, but as the traditional October-first moving date approached there were numerous reports of refusals to renew at the same rates and, after making its own investigation, the Federal Government stepped in. Property owners throughout the city were required to register, and on Nov. 1 rents were frozen at the level of March 1, 1943, subject to appeal in cases of special hardship.

FUEL SHORTAGE

In the winter of 1942-43 there was a serious shortage of fuel oil. The use of some public buildings was suspended or curtailed and everyone who could was urged to convert from oil to coal. As the 1943-1944 winter began, fuel oil was more plentiful, and there was a serious shortage of coal. Mayor La Guardia appointed Edwin A. Salmon, chairman of the City Planning Commission, to act as Fuel Administrator for the city.

CIVILIAN DEFENSE ACTIVITIES

Civilian defense activities continued throughout the year, with a number of surprise air raid drills, but public conviction grew that there would be no attacks on the city. As members of the voluntary services, air raid wardens, fire auxiliaries, city patrol corps, etc. went into the armed forces or into paid war activities; it often proved impossible to replace them. Grover Whalen, who had headed the New York World's Fair organization, was brought in as executive of the City Civilian Defense Volunteer Offices and a spectacular dinner to recruit 500,000 new volunteers was staged, but it fell far short of its goal in all parts of the city.

RELIEF AND CHILD CARE

Full wartime employment came more slowly to New York than to many other cities, but during the year the relief load dropped close to the irreducible minimum and the number of working parents created serious problems of child care. A Committee on the Wartime Care of Children appointed by Mayor La Guardia established child-caring centers in many parts of the city under the able direction of Helen M. Harris. Both the state and the city helped in the financing. By January 1944 it was announced that 40 such centers were in operation, with more needed.

SHORTAGE IN CITY GOVERNMENT PERSONNEL

The draft and the lure of war jobs at high wages reduced the regular city departments far more than the necessities of war curtailed city activities. Most vacancies were left unfilled as a matter of city policy, but it was not always possible to keep the personnel even up to the minimum desired. The shortage was particularly noticeable in the Police Department, where at the end of the year the number of officers was some 3,000 short of full strength, although the war had brought serious new problems of juvenile delinquency and other disorders to cope with. In January 1944 the Mayor ordered emergency overtime work by the Police and Fire departments, offering a bonus in partial compensation if the men would accept the arrangement. The Fire Department men voted down the arrangement and were subsequently ordered to do eight hours of extra duty in each 20 days without extra compensation. The police first rejected the plan presented and then changed their minds.

DIMOUT MODIFICATION

Toward the end of the year the strict dimout which had darkened the streets and increased crime and traffic accidents was relaxed with Army approval, and the city resumed much of its normal aspect after dark, though excessive lighting was discouraged to save fuel. Normal lighting was also resumed on the elevated trains and subway trains whose lights had been dimmed because parts of their runs were in the open. These substantial boons to the city were the result of the Navy's success in ridding our shores of submarines. The dimout had been instituted to keep ships off-shore from being silhouetted as easy targets against a brightened night sky.

THE CITY ELECTION AND PROPORTIONAL REPRESENTATION

War absences greatly reduced the number of voters in the Nov. 2 general election. This was an "off-year" anyway, with no President, Governor, or Mayor to be chosen, and the added effect of the war made the total vote a little less than 1,500,000, the smallest in many years.

The vote would doubtless have been still lower if it had not been for an unexpected state-wide contest to fill a vacancy in the office of Lieutenant-Governor. This was won handily by the Republican candidate, Senate Majority Leader Joe R. Hanley, though the Democratic-American Labor candidate, General Reuben L. Haskell, carried New York City by about 320,000.

As is usual in off-years, the Democratic organization made nearly a clean sweep of the city offices except those filled by proportional representation. Even in the borough of Queens, which was carried by Senator Hanley, the Democrats elected a county judge and a district attorney. The only plurality contests which the Democrats failed to carry were two in Manhattan, where Justice Francis E. Rivers, a Negro lawyer and former legislator, was elected to the City Court by an unusual combination of Republican, American Labor, Harlem, and civic support, and John R. Brook was elected to fill a vacancy in the city's one sure Republican State Assembly District.

In these circumstances, it seems highly probable that the Democratic organization would have elected all, or all but one, of the members of the City Council if it had not been chosen by proportional representation. But with minorities assured full representation and every voter free to express his real order of choice among all the Council candidates in his borough without danger of throwing away his vote, the Democratic majority in the Council was actually reduced. The new Council contains 10 Democrats and seven others, instead of 17 Democrats and nine others.

The difference in the size of the Councils is owing to the particular method of applying proportional representation in New York City. Each borough is polled as a separate district and allotted one councilman for every 75,000 valid ballots cast within it, with one additional for any remainder as large as 50,000. With this arrangement, adopted as the simplest method of securing constant and automatic reapportionment, the size of the Council fluctuates with the size of the vote.

Anticipating an exceptionally light vote, Councilmen Walter R. Hart and James A. Phillips, Democrats, introduced charter amendments to freeze the size of the Council for the duration of the war, and Council Minority Leader Genevieve B. Earle introduced a better-conceived proposal to reduce the quota to 50,000 for this one election. Democratic party strategy kept these bills in committee until it was too late for them to be used, but in the resulting reduction the Democrats lost seven places while the opposition had a net loss of only two. The opposition contingent consists of three Republicans, one representative each of the right and left wings of the American Labor Party, and—to the surprise of nearly everyone and the consternation of many—two Communists.

The Communists put on a very aggressive campaign, in which their support of the war was emphasized and their radical tenets were minimized, and they chose candidates with wide appeals on other than Communist grounds. Councilman Peter V. Cacchione of Brooklyn, the first Communist ever to be elected in an American P.R. election, was reelected, and Benjamin J. Davis, Jr., a Negro newspaper man with training at Amherst and the Harvard Law School, was elected in Manhattan with a combination of Communist, left-wing Labor, and independent Harlem support.

The election of these two Communists and one left-wing labor leader, Michael J. Quill of the Bronx, president of the Transport Workers' Union of America, brought a number of editorial attacks on the system of voting which had made their election possible, and some of the friends of the system began to wonder whether it had in some way broken down since the radical minority seemed to be over-represented. Analysis of the returns showed, however, that the 18 per cent representation of Communists and left-wing Labor in the new Council corresponded to a 17 per cent first-choice vote for their candidates in the city.

There was also a close correspondence between the Democratic vote and the Democratic representation. Fifty-seven per cent of the final preferential votes throughout the city were for Democratic candidates and 59 per cent of the new Council is Democratic. The Democrats failed to win a majority of the members in Manhattan and in the Bronx, although with a divided opposition they would presumably have swept both boroughs under a plurality method of election. In Manhattan they elected two out of four, and in the Bronx, where they polled slightly less than half the votes, one out of three. This was the first defeat in many years for the strong Bronx organization headed by Edward J. Flynn.

The successful minority candidates included four who had wide civic and newspaper support; two of them, Minority Leader Genevieve B. Earle of Brooklyn and former Borough President Stanley M. Isaacs of Manhattan, had been elected at the 1941 P.R. election without organized party support, but this time, on the strength of their proven popularity and their records in the Council, were added to the Republican ticket. Mr. Isaacs received the largest Council vote in the city.

THE AURELIO CASE

The most spectacular development of the election was not under P.R. with its separate preferential ballots but under the regular plurality plan on the voting machines. There were seven places to be filled in the Supreme Court in the judicial district composed of Manhattan and the Bronx. For these places the two major parties entered into a deal which let the Democrats fill two places not occupied by sitting judges in return for their endorsement of Justice David W. Peck, Republican, recently appointed by Governor Dewey to fill a vacancy pending the election.

After the judicial conventions of both parties had nominated the same bi-partisan ticket, District Attorney Frank S. Hogan disclosed that one of the new nominees, Magistrate Thomas A. Aurelio, was under obligations to Frank Costello, a leading underworld character, and had pledged "undying loyalty" to Costello in return for the latter's help in procuring the nomination. At once both parties sought to withdraw their nomination of Aurelio, but the courts ruled that they had no right to do so, and Aurelio refused to withdraw voluntarily. Governor Dewey was urged by former Corporation Counsel Paul Windels, the Citizens Union, and others to call a special session of the Legislature to permit the parties to substitute a new candidate, but the Governor declined, saying the remedy was in the hands of the voters. Efforts were made by the bar associations to have Mr. Aurelio disbarred, which would have made him ineligible to serve on the bench, but after an extensive hearing before former Court of Appeals Judge Charles B. Sears as referee, the case was thrown out.

Magistrate Aurelio thus came up to the election as the official nominee of the Democratic and Republican parties. The two organizations, nevertheless, advised voters not to vote for him, but they failed to agree on a single candidate against him. The Democrats supported former Municipal Court Justice Matthew M. Levy, regular candidate of the American Labor Party, and the Republicans supported George Frankenthaler (since appointed to the court by Governor Dewey to fill a vacancy), for both of whom independent places on the ballot had been secured by petition.

Aurelio ran far behind all of the other candidates on the bi-partisan ticket, but so many voters followed their old habits of turning down every lever on the Democratic or Republican line of the voting machine that he was elected to the seventh place over the divided opposition. The vote was Aurelio, 267,000; Levy, 218,000; Frankenthaler, 141,000. Presumably with a differently arranged voting machine without party lines to trap the unwary, or with a preferential ballot to let the supporters of a hopelessly defeated candidate help a second choice instead, Levy would have been elected.

As a result of the Aurelio fiasco, efforts are being made to secure remedial legislation from the 1944 Legislature. Governor Dewey in his opening message called for optional legislation which would let a judicial district adopt an improved method, as in Missouri. The various bar and civic associations of New York City are represented in a large committee which is trying to work out plans for concerted action. At the same time a less ambitious effort is being made to change the arrangement of the voting machine so that the candidates of the various parties and independent groups will appear in a different order in the column for each office, and the voter will have to look at each individual candidate for whom he votes, as was the case on the Massachusetts paper ballot which preceded the adoption of voting machines.

AMENDMENT AND BONUS REFERENDA

The only questions on the New York City ballot in 1943 were six amendments to the state constitution submitted by the Legislature. One of those adopted was of special interest to New York City. It modified the requirement of four months' residence within the same county for voting so that a voter can move from one county to another within the same city or village without losing his right to vote. There are five villages in the state which lie across county lines, and New York City contains all of five counties within its city limits, so that many hundreds have been losing their votes each year by moving from one part of the city to another around Oct. 1, which is early enough to meet the additional requirement of 30 days' residence within the election district.

Five of the six amendments were adopted. A seventh question almost found its way into the New York City ballot and would have done so except for court action. Under the city house rule law any city charter amendment can be forced into the ballot by two petitions with different signatures; the first to bring the proposal to the attention of the City Council and the second to force a vote if after two months the Council has failed to take action satisfying the demand. Although the percentages of the gubernatorial vote within the city required on the two petitions —10 per cent and 5 per cent, respectively—required a total of more than 300,000 signatures to invoke this process in New York City, petitions which appeared on their face to satisfy the requirements were actually filed by the city policemen and firemen to give each of them a $450 annual salary bonus until some time after the war. The simpler New York City charter-amending process of a single petition with 50,000 signatures to bring a question to a vote is not available for all types of amendments.

The bonus proposal was defended by the policemen and firemen on the basis of the increased cost of living, but it would have presented the city with a first-class crisis in the already difficult problem of balancing its budget within a two per cent tax limit. It would have added at least $12,000,000 per year to the city's mandatory expenses, and, if followed up by similar action for the city's other employees, would have added an eventual salary burden of more than $67,000,000. This alarming prospect was forestalled by court action brought on behalf of the Commerce and Industry Association and argued by former Corporation Counsel Paul Windels. The courts held that a temporary salary increase is not a proper matter for inclusion in a city charter.

Another case defining the scope of initiative powers under the city house rule law for all the cities in the state was decided at the same time. In the city of Long Beach a charter amendment prescribing the city manager plan with proportional representation had been presented by petition by the Long Beach Citizen's Union, and the city administration held it was not a proper amendment on the ground that the fundamental nature of the changes proposed made it in effect a new charter. Because of the implications of the case the New York City Citizen's Union and the Corporation Counsel of Yonkers, which adopted the city manager plan with P.R. by petition and popular vote in 1938, joined in the defense of the petition as *amici curiae*. The courts all held that the proposed amendment was a valid one, and it was submitted and approved by the voters of Long Beach.

REAPPORTIONMENT

Governor Dewey fulfilled his pledge to the voters on legislative reapportionment and forced through the Legislature, over considerable upstate opposition within his own party, a reapportionment law for the state Senate and Assembly, the first since 1917. The new apportionment improves somewhat the position of New York City and its suburbs, though not in full proportion to the growth of their citizen population. Within the city it makes drastic readjustments. The Borough of Queens doubles its representation in both houses, and the representation of Manhattan is reduced by a third. The County of Richmond (Staten Island) gets a Senator by itself instead of being combined with the district county of Rockland. The constitutionality of the bill was promptly tested in the courts and the Appellate Division of the Third Department held it invalid, but the Court of Appeals upheld it unanimously.

The new law draws the Senate district lines and apportions the numbers of Assemblymen to the several counties. The task of drawing Assembly lines within the Senate districts will be performed by the City Council in New York City and by the county Boards of Supervisors elsewhere in time for the 1944 election. Adjacent Assembly districts within a Senate district may not vary in citizen population by more than the citizen population of any city block along the dividing line, even though natural dividing lines are thus ruled out, but some of the Senate districts must be divided into three Assembly districts while others of approximately equal citizen population must be divided into two.

PUBLIC UTILITY ISSUES

Another vital change for New York City made by the 1943 Legislature was the abolition of the Metropolitan Division of the Public Service Commission, commonly known as the New York City Transit Commission. Since the accomplishment of transit unification in New York City, which was the main task of the Commission, its remaining duties were merely those of enforcing certain safety and other standards in transit facilities which the Public Service Commission performed for the rest of the state. Yet New York City taxpayers were carrying nearly all of the expense of the Transit Commission in addition to their full share of the expense of the Public Service Commission. The new law gave the Public Service Commission the supervision of transit as well as other public utility standards and rates throughout the state and transferred the needed part of the Transit Commission staff to the state commission. For two years the city is to continue to pay for the transferred staff, but after that it will be entirely free of the burden.

The proposal of the Mayor and Comptroller to buy the plant of the Staten Island Edison Company and serve the people of Staten Island with electric light and power was blocked, at least for the time being. The administration proposal introduced in the City Council by its President, Newbold Morris, authorized an estimated purchase price of $14,000,000 and a maximum price of $16,500,000. This was objected to as too high even by some who found the purchase on proper terms. While the measure was pending, the Public Service Commission was holding hearings on the company's valuation figures and came out with a temporary rate valuation, subject to challenge by the company in the courts, of $7,250,000. At this the Council, instead of revising the figures, killed the bill. Under Federal order the Staten Island Edison plant will have to be disposed of to someone, and the city administration wants to take advantage of the opportunity to furnish somewhat cheaper service to the people of Staten Island and to secure a lever with which to influence private electric rates in other parts of the city.

STUYVESANT TOWN

The 1943 Legislature passed a hotly debated amendment to the Redevelopment Companies Law. This law was put in the statute books the year before to induce private capital to help in slum clearance and housing development. It holds out incentives of partial tax exemption and public condemnation of needed land for companies whose housing development plans are approved by the appropriate authorities. The law was amended to facilitate the participation of insurance companies and to reduce in a number of ways the restrictions on its use. It was made possible for a company to buy its way out of public control, except for the zoning and other controls applying to all property, by the simple expedient of paying up the total amount of the tax exemption it had received. Conceivably this could happen very soon after it had assembled the land it wanted with the help of the city's powers of condemnation and before it had carried out the plans for which the project had been approved.

It developed that the Mayor and Park Commissioner Robert Moses had been negotiating with the Metropolitan Life Insurance Company for a huge housing project on the east side of Manhattan. When the public was informed of the plans, they had already been approved, and no changes were tolerated as the required public hearings and approvals were rushed through on a prearranged schedule, although many features of the plan filled the friends of better housing with disappointment and misgiving.

First the state Superintendent of Insurance gave his approval to the plans. Next the City Planning Commission revised its master plan of substantial areas so as to include the 18 blocks selected by the company, none of which had been so included before though undoubtedly part of the area is substandard. The public hearing on this change developed competent objection to parts of it, but it was approved forthwith at the end of the hearing without any discussion or consideration of the objections. Next the City Planning Commission listened to more strenuous and widespread objections to the plans for the project itself and approved them without change, Commissioner Laurence M. Orton, former secretary of the Regional Plan Association, voting alone in the negative. A few days later the Board of Estimate held a public hearing on the proposed contract between the city and the Metropolitan and its management company and approved the plans without change at the same session, only Council President Newbold Morris and Borough President Edgar Nathan of Manhattan voting in the negative, although the chorus of protest had grown still louder since the earlier hearings, and only those who had worked out the agreement appeared to defend it.

The objections to Stuyvesant Town, as the project is to be called, are not based on its fundamental idea, which is quite generally approved, but on the particular way in which this first precedent-making development has been projected. Although it is to house a population equal to that of Danbury or Newburgh, no space has been reserved for any school, library, or place of public assembly. All the school children will have to cross a busy thoroughfare twice a day. The population density is to be far greater than the average of residential Manhattan and less than one square foot per person is reserved for parks and playgrounds. Thirteen-story buildings will cast long shadows and one-story garages connecting them around the perimeter will give the area the aspect of a walled town. The general public may be excluded from the grounds, and the management has announced publicly that no Negroes will be accepted as tenants. No provisions have been made for housing the present residents of the district (few of whom will be able to afford apartments in the new development), though the contract recites that suitable accommodations for them are available.

Because of these and other objections two lawsuits were promptly started, with the backing of the Citizens Housing Council, the United Neighborhood Houses, and the Citizens Union, to test the validity of the law and the contract. The first of these, brought by property owners of the district, was decided by the Court of Appeals in favor of the law and the project. The second, raising new issues, is still pending.

The City Council also has before it several proposed local laws to prohibit city tax exemption in aid of a housing project which practices racial or religious discrimination. This is a natural extension of the city's policy, made state-wide by act of the 1943 Legislature, that public funds may not be used to aid child-caring institutions which discriminate against children of any race or color. A resolution asking the Board of Estimate to bar discrimination in city-aided housing projects was passed by the Council shortly after the Stuyvesant Town plans had been approved.

POST-WAR AIRPORT AND HOUSING PLANS

City construction work was practically at a standstill during 1943, but the development of extensive plans for post-war construction continued. The plans include Park Commissioner Moses' plans for a remodeling of Battery Park at the lower tip of Manhattan Island and the construction of an Oceanarium at Seaside Park, Coney Island, to replace the old aquarium in Battery Park. The suit started in 1942 to block the demolition of the Aquarium Building, old Fort Clinton, was lost.

Undoubtedly, the most important of the post-war plans is for the development of a huge commercial airport, several times the size of La Guardia Field, at Idlewild in Jamaica Bay, on the south shore of the Borough of Queens. This will have several giant reinforced runways; two of them as much as 10,000 feet in length and 200 or 300 feet in width, capable of accommodating aircraft of 100 tons.

With the development of aviation, New York's great seaport, on which its phenomenal growth and concentration of business activity have been founded, will no longer give it the advantage it once enjoyed over inland cities. Its continued prosperity may be in large measure dependent on developing airport facilities to match its seaport. The Idlewild project is pioneering in that direction.

Since there is no comparable airfield in existence the Idlewild project has called for constructive imagination, and plans have been changing and developing rapidly. Originally it was thought that the money received from the Federal Government for the use of Floyd Bennett Field would finance the planning and land acquisition for Idlewild. The capital budget for 1944, as presented by the City Planning Commission, contained a small additional sum for these purposes, but after the public hearing on the capital budget Mayor La Guardia recommended an expansion of the Idlewild appropriation by $13,000,000. This amendment was adopted unanimously by the Board of Estimate and the Council. Although this procedure by-passed the usual public hearing before the Board of Estimate and the formal recommendation of the City Planning Commission, it met with little protest and the City Planning Commission issued a special statement approving it in view of the significance of the project.

Further development of definite plans for post-war public housing construction was held in abeyance by the failure of the Legislature to authorize contracts for further borrowing of state funds. The housing amendment to the state constitution adopted in 1938 permitted the Legislature to borrow and lend to municipalities and housing authorities as much as $300,000,000 without coming back to the people for further approval. Of this, $150,000,000 had been definitely authorized by the Legislature, $100,000,000 for New York City, and $50,000,000 for the rest of the state. New York City had used or contracted for practically all of its $100,000,000 by the beginning of 1943, but the projects approved elsewhere totaled only about $15,000,000. Efforts by the New York City administration to arrange for more borrowing by the city Housing Authority led to a supposed agreement that the earmarking of the remaining $35,000,000 in bond money for the rest of the state would be removed so that some or all of it could be used in New York City. A bill to this effect passed the Assembly, but was "forgotten" in the Senate on the last day of the session.

THE BATTLE OF THE BUDGET

Before the mayoralty election of 1941, Mayor La Guardia had been a party to lowering the city sales tax from 2 per cent to 1 per cent on most purchases. In 1942 he came back to the Legislature, which has to authorize all local taxes except those on real property, with a request for permission that it be restored to the old figure. Otherwise, he saw no way of escaping a disastrous increase in the real property tax rate. Assessments and state aid had decreased, and mandatory expenses for salaries and pensions had increased.

The proposed authorization was brought to a vote in the Assembly, but without any majority party pressure behind it, many of the Republicans joined the Democrats in voting it down. Part of the adverse vote was a mere reflection of upstate Republican resentment against Governor Dewey for forcing through legislative reapportionment.

When the Legislature adjourned it was generally thought that it would be back in special session to grant some additional taxing power to New York City, but Governor Dewey declined to issue the call unless the New York City Council, which would have to vote the taxes, would ask him to do so. The Democratic majority in the Council declined and called for economies instead of higher taxes.

The Mayor's budget, as presented to the Board of Estimate on April 1, pruned department requests drastically and omitted items for supervised playgrounds, additional school psychologists, and other needs which seemed important in view of the menacing problem of wartime juvenile delinquency. However, it continued the $1,000,000 outlay for truant officers and appropriations for a great many vacant positions which could not in fact be filled. It also underestimated prospective receipts from the state. The budget, as presented, would have called for a 14- or 15-point rise in the tax rate.

Property owners, led by Walter E. Hoving, department store executive, organized a vigorous protest and offered to pay $25,000 for an expert study which would show the Mayor and his Budget Director where sufficient cuts to avoid a tax rise could be made with the least damage or no damage at all. The offer was not accepted, but the Democratic majority in the Council worked closely with the taxpayers and eventually, with the help of some of the Fusion members, secured a reduction.

The Board of Estimate passed the budget substantially as submitted by the Mayor. The Council then held hearings on it and struck out items totaling some $12,000,000, mostly for positions which it claimed could not be filled. The Mayor vetoed the reductions, which ordinarily would have ended the matter, since the Mayor's veto of a budget cut can be overridden only by a three-quarters vote of the Council and the Democrats lacked 3 votes of the required number, but for the first time in the history of the new charter some of the budget-cut vetoes were actually overridden. Councilman Christansen, Queens Republican, voted with the Democrats, and Councilmen Isaacs and Powell, Manhattan independents, supported the Mayor on some items and the Democrats on others. The net result was a $3,000,000 decrease in the budget total. Comptroller McGoldrick also increased his estimate of receipts from the state by some $2,000,000 on the strength of more recent information, and the final rise in the tax rate was 10 points instead of 14 or 15.

Events proved that the accruals from positions left vacant during the year were not only sufficient to absorb the Council's cut but to grant small wage increases to some groups of employees before the end of the year.

THE HARLEM RIOTS AND OTHER DISORDERS

The depleted police force had its hands full all year with special problems aggravated by the war. There was an epidemic of "muggings," brutal assaults in the darkened streets. The situation was particularly acute in the Negro districts, where the law-abiding residents and visitors were preyed on by a minority of wayward youths.

Inter-racial tensions increased, as in other cities, partly because of the muggings and partly because of discrimination against Negroes in the employment of workers in war and other jobs. The riots in Detroit put the large Negro population on edge, and when on the night of Aug. 1 a false rumor of police brutality spread as the result of a necessary arrest and an act of self-defense, there was an outbreak of violence in parts of Harlem which resulted in three deaths and a large number of broken windows and looted stores.

The Mayor and the police acted promptly and decisively. The lights were turned on, every available policeman was thrown into the district, the Mayor went on the radio with leaders of the Negro community to relate the true facts and appeal for calmness and keeping off the streets, broken windows were boarded up and the boards stenciled with patriotic appeals for order, and within a few hours normal conditions were being restored. There seems to be a general agreement that the situation was handled wisely and well.

In November a Brooklyn Grand Jury issued a presentment describing deplorable conditions of lawlessness in the Bedford-Stuyvesant district, which has a large Negro population, and holding the Mayor responsible for providing insufficient police protection. Controversy arose as to whether the charges were politically motivated and as to whether the facts had been exaggerated. There seemed no doubt, however, that a serious condition did exist. As a result of the publicity, police protection was improved in the district, and plans were advanced to provide better school conditions and facilities for organized play.

The year also brought an aggravation of anti-Semitic vandalism in several parts of the city. An investigation by Commissioner of Investigation William B. Herlands showed that the acts were almost invariably committed by older boys of subnormal intelligence from underprivileged and maladjusted homes who took anti-Semitic propaganda as an excuse for indulging their destructive leanings. It also showed that, where the police responded properly, the trouble was soon stopped, but that there were areas where the police were repeatedly uncooperative and much damage was done with impunity.

SCHOOL CONTROVERSIES

Mayor La Guardia, like many forceful executives, has displayed a tendency to absorb all the power he could get whether it was legally contemplated that he should have it or not. This propensity was strikingly illustrated during the year 1943 by a series of incidents involving the authority of the Board of Education, whose members are appointed by the Mayor but are supposed to exercise independent control of the school system once they are appointed.

Following a report by Commissioner Herlands of serious waste and inefficiency in the purchase of school supplies, a serious attempt was made in the Legislature, not only by the Mayor but by some civic groups that had long approved the principle, to transfer the purchase of school supplies to the city Department of Purchase. This move was bitterly resisted by the Board of Education, the teachers, and most of the organizations interested in the schools because of fears that the present or some future Mayor might use the purchase power as a whip over the heads of the Board. The City Council refused to give the necessary home rule request, and the bill was not passed.

Shortly thereafter the Mayor presented a city budget eliminating the salary of Theodore Fred Kuper, who had served the Board of Education efficiently as Counsel for many years and represented their viewpoint at Albany on the school purchase and other matters. The budget was passed without the line being restored. The Board of Education had authority to pay Mr. Kuper, nevertheless, out of other funds, but instead of doing so it yielded to pressure from the Mayor and discontinued his position.

The Board of Education has legal authority to transfer the funds budgeted to it from one purpose to another without seeking the approval of the Budget Director or the Board of Estimate. Nevertheless, the Budget Director, an appointee of the Mayor, has been exercising the same veto power over new appointments in the school administration as elsewhere, and in most cases the school authorities have not considered it worth while to fight, since to do so might invite reprisals in the next budget.

A notable instance of this situation arose during the year when the Board created several important new posts of administrative assistants and filled them with appointees who had qualified by experience and examination. The Budget Director approved some of these but sought to veto the appointment of Miss Truda Weil, who had been serving as secretary to Mrs. Johanna M. Lindlof, a member of the Board. Miss Weil brought suit for her position with the support of teachers' organizations, and the Public Education Association, the Women's City Club, the League of Women Voters, the Teachers' Guild Associates, and the Citizens Union were preparing to enter the case in her behalf as *amici curiae* because of the principle involved. At this point the Mayor stopped the litigation by appointing Miss Weil as his own educational adviser.

When Mrs. Lindlof's term on the Board expired the Mayor did not reappoint her. She had been notably independent in her views, though frequently siding with the Mayor on what she considered the merits of a case. She was replaced as Queen's member by Dr. George H. Chatfield, retired head of the Bureau of Attendance, who moved into Queens at the time of the appointment in order to qualify. Both the retirement of Mrs. Lindlof and the appointment of a non-resident to replace her aroused a good deal of public protest.

PROPOSED SCHOOL REORGANIZATION

The "Rapp-Coudert Committee" of the New York Legislature, which had aroused heated controversy earlier by its investigation into subversive activities in the New York schools, submitted a first report in 1943 on the structure, methods, and financing of the school system. This part of the work was under the direction of Dr. George D. Strayer of Columbia University Teachers College, with a competent staff of experts from other cities.

Chief among the numerous recommendations for improvement made by Dr. Strayer and approved by the committee was one for a streamlining of executive authority in the Education Department. Unlike other school systems the New York system has a Board of Superintendents instead of a single superintendent as its executive head. The Superintendent of Schools is merely chairman of the Board, all of whose members are appointed by the Board of Education without his advice or approval being required. The Strayer report recommended keeping the Board of Superintendents to decide on school books and curriculum but giving the entire executive direction of the school system to the Superintendent of Schools.

This proposal passed the state Senate and failed by four votes in the Assembly. Fear of the Mayor entered even this argument, opponents charging that he could dominate a single executive more easily than he could dominate a whole Board of Superintendents. The question will come up again in the Legislature of 1944, along with other recommendations of the committee, which has continued its studies and included for the first time the operations of the four city colleges and the Board of Higher Education.

COUNCIL INVESTIGATION

During the spring, Councilman Walter R. Hart, Brooklyn Democrat, was named in a court case by Commissioner Herlands as having been approached in a plot to secure City Council legislation on the use of stirrup pumps for air-raid fire protection for the benefit of a particular dealer. Mr. Hart was not accused of having consented to the plan, but when those brought to trial were acquitted he retaliated by sponsoring a general Council investigation of the city administration. The Council majority voted for it over the protest of the minority, which called it a general fishing expedition for political ends.

Mr. Hart was made Counsel to the investigation and Councilman Louis Cohen, Bronx Democrat, his assistant. Mr. Hart and Mr. Cohen conducted private and public hearings and collected a great deal of testimony, but did not submit it to the whole committee and prepared a report, which they presented in December, without the whole committee's collaboration. Consequently Mrs. Genevieve B. Earle, minority leader of the Council, and as such a member of all committees, filed a report protesting the committee's procedure and criticizing the report as biased and one-sided.

The report included charges that Commissioner William F. Carey of the Sanitation Department had violated the city charter in developing a country retreat for the men of his department, Sanita Lodge, with the aid of city labor and materials, and that various officials and employees had used city cars for pleasure trips and family errands. Some of the charges were disputed, others admitted with extenuating explanations. Commissioner Herlands, at the Mayor's request, conducted parallel public hearings to bring out aspects of the situations which Mr. Hart did not permit to be developed before the committee. A charge that the city violated Federal price regulations in making special arrangements to supply its hospitals and jails with meat appeared to be conclusively disproved.

FRUITS OF COUNTY REFORM

It may be worth noting, in conclusion, that experience has amply justified the predictions made in 1941 when the elective County Sheriffs and Registrars were abolished and their places taken by unified offices under the Mayor with civil service officers and staffs. The service has been greatly improved and the cost to the taxpayers lessened by over $500,000 a year.

CITY POLITICS

By Alfred Willoughby

Executive Secretary, National Municipal League

GENERAL

Local politics remained relatively quiescent during the year, with a few notable exceptions, while cities generally showed a strong trend toward increased concentration on post-war planning. A most significant development in planning, in the opinion of those who see the need to approach future municipal problems on the basis of larger areas, was the organization of a large number of official planning agencies and citizen planning associations for regions or metropolitan areas rather than for single cities. Some post-war planning activities at the local level were ambitious to the extreme. Few approached the blueprint and financial planning stage. Most of them implied an assumption that heavy financial aid would come from the Federal Government.

CITY LABOR UNION TRENDS

Students of government were attempting to gauge the future political implications in the increased making of collective bargaining agreements between municipalities and unions of municipal employees. While some public employee unions continued to disclaim any right to strike, a number forced their points of view by actual strikes. Meanwhile the large majority of cities and their law officers adhered to their previously announced policy against the right to strike. At least 32 union agreements are known to have been signed by municipalities as the result of collective bargaining with either the American Federation of State, County, and Municipal Employees (A. F. of L.) or with the State, County, and Municipal Workers of America (C.I.O.).

MERIT SYSTEM EXTENSION

Twelve cities and three counties adopted civil service laws in 1943. The merit system was formally extended on July 1, 1943 to all of the 12,000 units of local government in the State of New York, the largest single extension of the year.

ALBANY, N. Y.

Governor Thomas E. Dewey launched his long-promised fight to break the hold of the O'Connell political organization on the state's capital city. When the Governor appointed a special assistant attorney general to supersede Albany County's Democratic district attorney for an investigation of city-county affairs, the district attorney retaliated by starting an investigation of alleged extravagant expenditures by committees of the Republican-controlled legislature since 1936. Late in December the Governor met this threat by again superseding the district attorney with the appointment of Hiram C. Todd, noted lawyer and special prosecutor, to conduct the investigation of the legislature. In view of charges that past grand juries were always hand picked and would never consider cases involving the O'Connells, the drawing of a new panel was postponed until some time in 1944.

JERSEY CITY

Further signs of the weakening of the power of Frank Hague, wielded from his Jersey City stronghold, over the State of New Jersey came during the year with the popular approval of the proposal that the state legislature constitute also a convention to revise the state's century-old constitution. Strenuously opposed by Hague, the proposition was defeated three-to-one in Jersey City's Hudson County but this was not enough to offset the three-to-one margin for the state as a whole. Friends and foes alike of constitutional revision expect it to weaken political machine control. The election of Walter E. Edge, Republican, as governor, likewise promises a continuance of the campaign against Hagueism which was waged by retiring Governor Charles Edison. In a strong public statement during his last days in office, Governor Edison charged that control of Federal patronage in the state was the only factor which continued Hague as a strong force in New Jersey.

DETROIT

Torn by its race riot of June and again facing the renewed urge of organized labor to take control of public affairs, Detroit came perilously close to losing its mayor, Edward J. Jeffries, Jr., who had made an excellent record during his first two terms and was a candidate for a third. Frank FitzGerald, with the endorsement of C.I.O. and A. F. of L., ran far ahead of Mayor Jeffries in the primary. Their confidence jolted, civic and other groups rallied behind

Jeffries in one of the most vigorous campaigns Detroit had seen during its 25 years of non-partisan elections, and the mayor was returned to office by a comfortable margin.

MILWAUKEE

Milwaukee, Wis., announcing that it had become the only debt-free metropolis in the United States, faced its most confusing political situation in a generation. The city's mayor, Harry F. Zeidler, on leave as an officer in the Navy, was missing in action. Daniel W. Hoan, who had gained fame as Milwaukee's mayor for a quarter of a century until his defeat by Mr. Zeidler, announced from his law office that he would not be a candidate. A score of other candidates, most of them unknowns with little reason to hope for success, appeared to make it anybody's race in the 1944 spring election.

SAN FRANCISCO

Angelo J. Rossi, veteran mayor of San Francisco, was retired in a three-cornered campaign which resulted in the election of Roger D. Lapham, chairman of the board of the American Hawaiian Steamship Company. Attempts to rally the organized labor vote against Mr. Lapham on the grounds that his vice presidency in the San Francisco Employers Council and his membership on the National Defense Mediation Board gave him an "anti-labor" record apparently failed. Shortly after his election, Mayor Lapham announced that he would serve only one term and would not seek the office again.

FUNCTIONS AND TYPES OF MUNICIPAL GOVERNMENT

By Clinton Rogers Woodruff
Lawyer and Writer, Philadelphia

FIRE PROTECTION

The upward trend of fire losses evident since the beginning of the war continues. Losses for the first ten months of 1943 totaled approximately $300,872,000, an increase of some 18 per cent over the same period in 1942. This increase is almost entirely within the industrial field, since the records indicate that fire losses in all other properties, including dwellings, are continuing to diminish.

The organized fire departments of the country were faced with serious situations in 1943 because of depletions of manpower and difficulties in securing standard fire equipment, both for replacement of obsolete apparatus and for coping with additional hazards created by the war. While many local selective service boards were sympathetic to the importance of firemen, a considerable number of young and active firemen enlisted in the armed services anyway, and in certain cases the selective service boards did protect the fire department to an adequate degree, but fire departments generally were faced with heavy additional responsibilities with an ever-decreasing manpower.

Shortages of critical materials and the requirements of the Army and Navy for a large number of pieces of fire-fighting apparatus to protect Army and Navy properties made it difficult for cities to secure fire apparatus. Many cities neglected to provide for adequate replacement of obsolete apparatus during the depression years and have not been able since the outbreak of war to secure adequate equipment, so that in general the fire apparatus situation in many cities is deplorable. Another troublesome problem has been to secure an adequate amount of fire hose. New standard hose now being manufactured and delivered to fire departments is definitely inferior to hose manufactured in peacetime. An era of burst hose at fires a few years hence, therefore, appears to be inevitable, with consequent danger to life and property.

THE COCOANUT GROVE FIRE IN BOSTON

The Cocoanut Grove holocaust in Boston proved to be a stimulus to public interest and concern about fire dangers. Rightly or wrongly, this concern manifested itself largely in a wave of new legislation designed to safeguard places of public assembly against rapidly spreading fires, inadequate exit facilities, and panic. Carried along on this wave of public feeling were a number of excellent fire prevention ordinances and a general effort on the part of fire officials to tighten the enforcement of fire safety laws already on the statute books.

DEFENSE FIRE PREVENTION

While the threat of incendiary bombing of our coastal cities still exists, the acute danger of it has passed. As a consequence the problem of maintaining the public interest in certain of the emergency services, such as auxiliary fire forces, has become serious in a number of cities. A new development in the Civilian Defense situation is the organization of "Fire Guards" who are being recruited and trained for the purpose of checking fire losses in the home and in industry through the correction of obvious fire hazards and the prompt detection of incipient fires. The fire watchers previously enrolled in the Citizens Defense Corps, were amalgamated with the Fire Guards.

EXCHANGE OF FIRE FIGHTING AID AMONG CITIES

City fire departments can go to the aid of neighboring cities in emergencies under legislation adopted in 1943 by Indiana, Kansas, Maryland, Washington, and several other states, the American Municipal Association reports. Practically all state laws authorizing municipal fire departments to give outside aid in emergencies are patterned after a California statute adopted in 1941 which removed barriers to the exchange of such governmental services as police, fire, health, and welfare protection between cities, and removed the danger of liability for accidents and damages occurring during performance of such services. Heretofore these barriers discouraged even extension of fire protection to suburban and rural areas. California revised this arrangement somewhat in 1942 by giving the State War Council authority to order mandatory mutual aid by fire departments.

POLICE TRAFFIC TRAINING

Twenty-two police officers from six states and 12 municipal departments were enrolled in the Northwestern University Traffic Institute's four-month course on fellowships and scholarships provided by the Automotive Safety Foundation and the Kemper Foundation for Traffic Police Training. The city police officers were from Grand Rapids and Flint, Mich.; Buffalo, N. Y.; South Bend, Ind.; Everett and Seattle, Wash.; San José, Oakland, and San Diego, Calif.; Milwaukee, Wis.; Sioux Falls, S. D.; and San Antonio, Tex. One hundred and fifty men have been graduated from the institute's traffic police administration course since its inception in 1936.

DETROIT ORDINANCE ON POLICE UNIFORMS

The Detroit council recently adopted an ordinance declaring it unlawful for any person "to wear any uniform on the streets, highways, alleys, or other public places in the city of Detroit simulating the uniforms of the Detroit police department . . . unless such uniforms shall have placed at the top of each sleeve . . . in contrasting colors and in letters not less than one-half inch in height the words 'private police' or words of like designation." The police commissioner is authorized to inspect such uniforms and approve or disapprove them. This step was taken after the police commissioner called the attention of the council to the fact that on a number of occasions plant guards and privately employed auxiliary police have been mistaken for members of the police department and that these private police officers had not always conducted themselves in a manner that tends to win the respect of the citizens.

PROHIBITION OF POLICE MEMBERSHIP IN FOP

The Supreme Court of Michigan on June 30 upheld the action of the police and fire board of Lansing in prohibiting command officers of the police department from becoming members of the Fraternal Order of Police, confining membership to patrolmen, and prohibiting associate or honorary membership in the FOP. The Court said that the associate members were furnished with a membership card, and a car emblem indicating that special privileges would be conferred on such members was sufficient to support the decision of the police board that membership in the organization was contrary to local public policy.

MUNICIPAL EMPLOYEE PAY DEDUCTIONS

Some cities are making as many as 20 deductions from the pay of municipal employees, most of which are from insurance companies or local vendors. Los Angeles makes 17 deductions, eight of which are for private insurance companies, and Portland, Ore. makes 13 deductions, several of which are not for public purposes. The Municipal Finance Officers Association, at its annual conference, went on record as opposing the use of local government offices as collection agencies for private business.

BILLBOARDS

Four years ago Vermont passed one of the best billboard laws yet enacted. Now that law, challenged by the billboard industry as unconstitutional, has been upheld by the Vermont Supreme Court in a unanimous decision which will make history in billboard control (*Kelbro Inc. v. Myrick, Secretary of State,* January, 1943). The court not only declares the Vermont law constitutional but demonstrates that every state which follows its opinion can restrict, or even prohibit, highway billboards without infringing on any constitutional rights of the billboard industry.

"There is no inherent right to use the highways for commercial purposes," the court states, and points out that the billboard is essentially a use not of private property but of the public thoroughfare. It is similar to the use of the highway by bus and trolley lines, for which uses permission may be granted or withheld by the state. The court also declares that the private property owner has no inherent right to lease his highway property for commercial advertising unless such advertising applies solely to business on the property.

That the property owner has certain inherent rights in the adjoining street or highway, such as ingress, egress, light and air, has long been recognized by the courts. These rights are known as easements and are governed by the law of easements. The right to be seen from the highway (the factor which gives the billboard its value) is one of these easements. According to established law, all such easements exist solely for the benefit of the property itself. The right-to-be-seen easement, therefore, entitles the property owner to maintain highway advertising only if it pertains to the property itself, its sale, its rental, or business conducted thereon. It does not include commercial advertising foreign to such business.

Under this court ruling the property owner may lease space to billboards so long as there is no law forbidding it, but if the state enacts a law restricting, or even prohibiting, highway advertising, neither the property owner nor the billboard owner can legally claim that he is deprived of any constitutional rights.

CALIFORNIA CASE ON PROPERTY RIGHTS

In a 5-to-2 decision issued on June 1, 1943, the California Supreme Court, in the matter of *Mercury Herald Co.*

v. Moore, reversed its previous interpretation of private real property rights and, according to the minority opinion handed down on June 1, reversed previous decisions that have been the law of the state from an early period.

Following the enactment of several "moratorium" statutes, every two years since 1933 (which had the effect of prohibiting activity by tax-deed purchasers, and causing a serious deficit in the collection of revenues needed by the counties and other local governments dependent on the collection of taxes from those holding title to real property) the Legislature in 1941 passed a law which placed a definite time limit within which such taxes must be paid, where the law before contained none. The question presented in this case was whether the Legislature exceeded its constitutional authority, when it enacted the 1941 statute. In its first opinion, Dec. 31, 1942, the Court ruled that the 1941 statute was unconstitutional. A petition for rehearing was promptly filed and was granted.

The decision of June 1, 1943 consisted of four separate opinions, each one of them differing from the other, but three of them agree on the basic question of the power of the state to compel the payment of taxes due, by those holding real property.

There are several million acres and several hundred thousand subdivision lots in California much more than five years tax delinquent, which must now revest in the state, as owner. The last Legislature under Governor Olson set up a State Land Classification Commission to classify and administer any and all such land escheating to the state, but it was abolished by the Legislature of 1943.

PERIODICAL PUBLICATIONS

American City
470 Fourth Ave., New York City.

Insured Mortgage Portfolio
Federal Housing Administration, Washington, D. C.

Municipal Finance
1313 East 60th Street, Chicago.

Municipal Sanitation
24 West 40th Street, New York City.

National Municipal Review
299 Broadway, New York City.

Public Management
1313 East 60th Street, Chicago.

Public Works
310 East 45th Street, New York City.

Sewage Works Journal
40 Wall Street, New York City.

Water Works and Sewerage
330 S. Wells Street, Chicago.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Civic Assn., 901 Union Trust Bldg., Washington, D. C.

American Municipal Assn., 1313 E. 60th St., Chicago, Ill.

American Public Works Assn., 1313 East 60th Street, Chicago.

Governmental Research Assn., 5135 Cass Ave., Detroit, Michigan.

Institute of Local and State Government, University of Pennsylvania, Philadelphia.

Institute of Public Administration, 261 Broadway, New York City.

International City Managers' Assn., 1313 E. 60th St., Chicago, Ill.

National Civic Federation, 112 Park Ave., New York City.

National Civil Service Reform League, 67 W. 44th Street, New York City.

National Municipal League, 299 Broadway, New York City.

United States Conference of Mayors, 730 Jackson Pl., N.W., Washington, D. C.

DIVISION VI

TERRITORIES AND SPHERES OF AMERICAN INFLUENCE

ALASKA

By Ernest Gruening
Governor of the Territory of Alaska

FINANCE

Cash on hand in the Territorial treasury Jan. 1, 1943 amounted to $801,007.21, as compared with $440,667.44 the previous year. The combined resources of territorial and national banks at the close of business June 30, 1943 were approximately as follows: capital $985,000, surplus and undivided profits $1,585,153.73, deposits $44,799,852.46. Totals for the previous year were: capital $972,000, surplus and undivided profits $1,464,811.63, deposits $28,099,866.25.

FISHERIES

The total value of the Alaska fishery products in 1942 was $56,507,699, a decrease of $6,931,894 from the preceding year. Products of the Alaska fisheries in 1942 declined about 29 per cent in quantity from the highly successful season of 1941. Although there was great demand for fishery products —especially canned salmon for military and lend-lease requirements— manpower shortages, loss of floating equipment to military agencies, transportation difficulties, and military operations in parts of central and western Alaska made it impossible to utilize the available fishery resources to the maximum which might safely have been taken without danger to the future supply.

The total number of salmon of all kinds taken in 1942 was 83,240,989 as against 108,335,585 in 1941. The number of cases packed was 5,075,866 valued at $48,298,913, as compared with 6,932,040 cases valued at $56,217,601 in 1941. One hundred canneries were operating, nine fewer than in 1941, and the number of persons employed decreased from 21,994 to 19,946. Four herring plants operated, which was nine fewer than in the preceding year, and the number of employees decreased from 718 to 483, of which 150 persons were also engaged in other fishery operations. The total value of herring products was $901,454 as compared with $2,471,998 in 1941. The value of halibut landings at Alaskan ports totaled $3,555,000 as compared with $1,552,658 in 1941.

FURS

Only 127 fur-seal skins had been taken at the Pribilof Islands when war activities in the Aleutians caused the armed forces to evacuate in June the population to southeast Alaska, 1,500 miles away. Therefore, no computation of the herd was made in 1942. During the fiscal year ended June 30, 1943, two public auction sales of fur-seal skins were held by the Fouke Fur Company at St. Louis, Mo., during which 42,325 skins were disposed of. Gross receipts from these sales, together with an additional 122 skins sold at special sales, were $1,537,530. Also 780 blue fox skins were sold for $10,068 and five white fox skins for $85.

REINDEER

The Reindeer Service field headquarters are situated at Nome. A Reindeer Supervisor provides general field supervision of reindeer work, being directly responsible therefor to the General Superintendent of the Indian Service at Juneau. The reindeer country is divided into six administrative units, each under supervision of a Unit Manager familiar with policies and field work. Local supervision of reindeer activities is provided at 41 villages by Indian Service teachers, who report direct to Unit Managers. Approximately 162,071 reindeer, of which natives own an estimated 118,000 and the Government the remainder, graze on the west coast of Alaska between Kodiak Island and the Arctic rim east of Barrow.

PUBLIC SCHOOLS IN ALASKA

The territorial public schools in Alaska for the education of white and mixed-blood children, including both elementary and high schools, are under the general supervision of a Territorial Board of Education, with the Commissioner of Education as executive officer. Schools are of two classes: schools within incorporated cities and incorporated school districts, and rural schools located outside incorporated cities and school districts.

Approximately 85 per cent of the funds for the support of schools are appropriated directly from the Territorial treasury, while 6 per cent come from the Alaska fund, 7 per cent from a $5 school tax levied on all persons between the ages of 21 and 55 years inclusive, and 2 per cent from the Alaska Game Commission, the Forest Reserve fund, and other miscellaneous sources. Schools within incorporated cities derive 20 to 30 per cent of their funds from local taxation; the Territory furnished 70 to 80 per cent of all operating costs.

Four-year high schools, accredited by the Northwest Association of Secondary and Higher Schools, are maintained at Anchorage, Cordova, Douglas, Fairbanks, Juneau, Ketchikan, Nome, Petersburg, Seward, Sitka, Skagway, and Wrangell, as well as the rural high school at Palmer and the Sheldon Jackson School at Sitka. High schools accredited by the Territorial Department of Education are maintained in the incorporated cities of Craig, Haines, Kodiak, Nenana, and Valdez, and in connection with a number of rural schools.

Graduation from a three-year standard normal school or its equivalent is a prerequisite for the elementary teacher's certificate in Alaska. High school teachers must be graduates of standard four-year colleges and must have completed a minimum of 15 semester-hours of education. At the 21st annual commencement of the University of Alaska, 16 bachelor's degrees and one professional degree were conferred. In addition to an enrollment of 162 regular students for the year, 862 enrolled in short courses, mining extension and agricultural extension, and in the night school held at Ladd Field.

AGRICULTURAL AND VOCATIONAL SCHOOLS

Agricultural Experiment Stations are maintained at the University and in Matanuska Valley and at Petersburg where an Experimental Fur Farm has been established. An Extension Service serves the Territory with six workers.

The Office of Indian Affairs maintained three vocational high schools and 119 elementary schools, which serve also as community centers for the Indians and Eskimos. Programs of study for the schools vary greatly, being based upon the needs and abilities of the individual communities and the extent to which white culture has been adopted. Regular teachers of this office are subject to the Civil Service rules and regulations. Minimum qualifications require graduation from a three-year teacher's training school or a University bachelor's degree, and two years experience. Increased development of native arts and crafts is an integral part of the program. A total of 189 teachers, with nine Indian assistant teachers, taught 6,101 pupils during 1942-43.

TRANSPORTATION

The Alaska railroad carried 72,897 rail line passengers in 1942, an increase of 13,790 over the previous year. Rail line freight traffic amounted to 461,383 tons, an increase of 41,516 tons over 1941.

Commercial aviation is one of the major factors in the industrial life of Alaska. The number of passengers during the fiscal year ended June 30, 1943 totaled 45,801; passenger miles flown, 10,150,469; mail and freight carried, 3,976,009 pounds.

Five steamship companies served Alaska during the year. The Alaska Steamship Company operated ships from Seattle to southeastern Alaska ports, as well as to Kodiak and Seward. The Northland Transportation Company and the Alaska Transportation Company of Seattle, the Canadian National Steamships of Vancouver, B. C., and the Canadian Pacific Railway Company of Victoria, B. C. operated ships on regular schedule from Seattle, Vancouver, and Victoria to southeastern Alaskan ports. During the past year, United States vessels operated by private industry were under the operating control of the War Shipping Administration.

HAWAII

By Ingram M. Stainback
Governor of the Territory of Hawaii

GOVERNMENT

Of the 21 islands in the Hawaiian archipelago, eight are inhabited. During the greater part of the nineteenth century the islands formed an independent kingdom, but in 1893 the reigning Queen, Liliuokalani, was deposed and a provisional government set up. In 1894 a republic was proclaimed. Pursuant to the request of the people of Hawaii, expressed through the legislature of the republic, and a resolution of the United States Congress approved July 7, 1898, the islands were formally annexed to the United States on Aug. 12, 1898. The Organic Act under which Hawaii is governed was approved April 30, 1900.

Executive power is vested in the Governor, appointed by the President by and with the advice and consent of the United States Senate. The Hawaiian Organic Act provides that, to be eligible for appointment as Governor, one shall have resided in Hawaii for at least three years next preceding appointment. The Secretary of the Territory, who becomes Acting Governor during the illness or in the absence from the Territory of the Governor, is also appointed by the President by and with the advice and consent of the Senate. There is a Legislature of two houses, a Senate of 15 members elected for terms of four years, and a House of Representatives of 30 members elected for terms of two years.

Hawaii is represented in Congress by a Delegate, elected biennially. He has the right to debate and to be a member of committees of the House of Representatives, but has no vote.

AREA AND POPULATION

For administration purposes the Territory is divided into five counties as follows: City and County of Honolulu, comprising the Island of Oahu (area 604 sq. m.); County of Hawaii, comprising the Island of Hawaii (area 3,030 sq. m.); County of Maui, comprising the Islands of Maui, Lanai, Kahoolawe, and all of Molokai except the leper settlement (area 1,164 sq. m.); County of Kauai, comprising the Islands of Kauai and Niihau (area 627 sq. m.); and Kalawao, administered by the Board of Hospitals and Settlement (area 13 sq. m.). The total area is 6,435 square miles. The principal cities are Honolulu, the capital, situated on Oahu, and Hilo, on the Island of Hawaii.

The regular annual population estimates of the Board of Health as of July 1, 1943 were withheld from publication in the interest of national defense, but the latest estimates made by the Registration Division of the Territorial Office of Civilian Defense list the non-military populations of the Territory as follows:

City and County of Honolulu	305,000
County of Hawaii	77,000
County of Maui	58,000
County of Kauai	38,000
Total	478,000

CONVERSION TO WAR STATUS

Hawaii, an organized and incorporated territory and an integral part of the United States, became the first United States soil to bear the brunt of the initial Axis attack upon the nation on Dec. 7, 1941. Within two hours of the attack, the nation's Pacific military and naval outpost was placed on an all-out war basis by the then Governor J. B. Poindexter, who proclaimed a "Defense Period" throughout Hawaii under powers granted by the Hawaii Defense Act. This act was passed the previous October by the Territorial Legislature in special session called principally for that purpose. Shortly after the proclamation was issued, the Governor suspended the writ of habeas corpus and placed the Territory under Martial Law pursuant to the provisions of Section 67 of the Hawaiian Organic Act and purported to turn over all the functions of the Territorial government, including the functions of territorial, county, and judicial officers, to the Commanding General of the Hawaiian Department who assumed the title "Military Governor of Hawaii."

Under such conversion Hawaii was completely blacked-out nightly; sales of intoxicating liquor were prohibited absolutely for 78 days and then permitted, when available, on a restricted basis; rents and prices of all commodities, including food, were strictly controlled; gasoline was rationed at a basic maximum of ten gallons a month plus such additional amounts as were necessary for transportation necessary for the war program; most of the functions of the civilian courts were assumed by the military provost tribunals; certain types of businesses were licensed and regulated as to hours of opening and closing; civilian mail was placed under censorship; and many other innovations, heretofore unknown to Hawaii and the rest of the United States, were imposed by the military upon the population.

This unique and unparalleled situation continued until Feb. 8, 1943 when, after a series of conferences in Washington with representatives of the War Department, Department of the Interior, the Attorney General's Department, proclamations were issued by the Governor of Hawaii and the Commanding General of the Hawaiian Department restoring as of March 10, 1943, the management of civil affairs to civil authority. This placed responsibility and supervision of civilian affairs where it properly belonged, with civil authorities. This restoration has not in any way interfered with the efforts of the military in Hawaii.

CIVILIAN DEFENSE

The Territorial Office of Civilian Defense was sufficiently well organized on Dec. 7 to swing into immediate action. Funds provided by the Department of the Interior and under the Hawaii Defense Act were made available to maintain the various divisions and programs of the Office. After two years of war it may be said that the work of the OCD throughout the five major islands has been outstanding. Under its direction and supervision over 37,000 civilians of all races and ages have been trained to do war service, varying from hospital aides to block wardens.

The more important divisions under the Office of Civilian Defense, all functioning continuously, include the bomb disposal division; communications; gas defense, which has distributed 400,000 adult masks and 70,000 built-up masks for children and

13,000 "bunny" masks for infants; mortuary burial division; emergency feeding division, ready and trained to serve meals to 70,000 civilians in 35 evacuation centers; plans and training; women's division; demolition, rescue, and repairs; transportation; air raid wardens, with over 7,200 volunteer members; emergency medical division, including supervision of blood plasma bank, first-aid stations, emergency ambulance service, and civilian emergency hospital and nursing activities; registration division, which has completed the registration and fingerprinting of over 450,000 civilians; evacuation division; and civilian war services division.

In addition, the OCD has set up an Office of Emergency Management to direct and supervise certain civilian activities affected by the war emergency. Under this Office are food control, governing the importation of foods; food production, directing increase production of foods locally; materials and supplies control, regulating the importation of merchandise and supplies into the territory; medical and poison control; islands residents return control; Hawaii manpower control, to conserve and distribute labor for essential businesses; lands transportation control; and housing coordination division, to relieve the present shortage of housing facilities.

All peacetime resources of the territorial government have been dedicated to the achievement of the single national objective—win the war and get it over with as soon as possible. Consequently, the Department of Public Works has devoted its entire personnel and resources to the construction and repair of highways and roads of military importance; territorial airports have been turned over to the armed forces for the duration; public lands have been transferred and licenses granted to military authorities for large areas of property required for military use; harbor facilities have been placed at the disposal of military authorities for vessel and freight movements; the Department of Public Instruction has permitted the use of school buildings by the military; the Department of Institutions has shared its hospitals, laboratories, and other facilities with the armed forces; the Department of Agriculture and Forestry has authorized the cutting and scaling of timber for the Army; and other departments, some in greater and some in lesser degree, have cooperated to lessen the burdens of the Army and Navy. In practically all instances the use and transfer of territorial properties and facilities have been without assistance from or payment by the Army or Navy therefor.

BUSINESS AND FINANCES

Business has been able to maintain itself through the period of the war. The great amount of wealth pouring into the Territory through defense jobs and the Army and Navy has created a boom in certain businesses and industries. This has offset losses sustained in other lines of business hard hit by the war.

Several Federal agencies have entered Hawaii to regulate and control business activities. The Office of Price Administration has issued regulations setting price ceilings on hundreds of major grocery items, laundry services, meats, fats, petroleum products, etc., and rationing gasoline, tires, stoves, refrigerators, etc. The War Production Board has also an office here to control the release of critical materials. The Office of Defense Transportation, the Federal Surplus Commodities Corporation, War Shipping Administration, and others have likewise established themselves here to further the war effort.

Territorial collections on account of business and otherwise for the fiscal year ended June 30, 1943 totalled $35,827,659 as compared to $27,215,950 for the previous year. The financial position of the Territory continues to be excellent with an unappropriated surplus of $4,179,017 as of June 30, 1943.

Internal revenue receipts of the

Federal Government for the fiscal year ended June 30, 1943 were 75,996,558, a new all-time high record since annexation in 1898. These were $43,928,631 above the $32,067,927 collections for the 1942 fiscal period, the previous high mark, and $62,232,560 higher, or more than four times the $13,753,998 collections in the 1941 fiscal period.

The amounts and value of Hawaii's imports and exports during the year can not be published in the interests of national defense, but it can be said that the harbors of the Territory have never experienced a busier period than that since the Japanese attack on Dec. 7, 1941.

HEALTH AND WELFARE

The Territory has felt the effects of war upon health and welfare of its population. Public health functions have had to be expanded, reserve supplies of drugs and equipment have been obtained for emergency use, measures for protecting the water supplies by chlorination and for the disposal of sewage have been executed, and provisions for closer sanitary inspections under the varying types of emergency conditions have been made. Immunization orders have been issued resulting in 301,567 persons being vaccinated for typhoid, 304,406 persons against smallpox, and 11,634 children protected against diphtheria. Venereal diseases have been satisfactorily controlled, the rate dropping to an unprecedented low of 4.5 for 1943 as against 9.3 for 1942. Five diseases were epidemic: mumps, whooping cough, poliomyelitis, influenza, and dengue fever. The tubercular rate has increased, paralleling the mass movement of war workers, overcrowding, blackout restrictions, and general inability to live normally under present conditions.

FOOD PRODUCTION

Hawaii was not prepared to meet the problem of a self-sustaining food supply on Dec. 7, 1941. However, immediate steps were taken to stimulate local food production. All agriculture and food production agencies were requested to accelerate their programs, resulting in approximately 8,000 acres now being planted in food crops other than sugar and pineapple. In June 1943 there was an output of approximately 8,000,000 pounds of truck and field crops as against 5,700,000 pounds in June 1942. In addition, over 10,000 victory gardens have been started to augment commercial food production. Also the production of hogs, poultry and beef cattle has been increased. Fishing, previously restricted in Hawaiian waters, is now permitted under specified conditions.

THE SUGAR AND PINEAPPLE INDUSTRIES

During the second war year, Hawaii produced and shipped to the mainland nearly 900,000 tons of raw sugar. This was done in spite of serious handicaps and at the probable expense of future production. Plantation manpower is 35 per cent below the pre-war volume as the result of continuing demands on war building projects. Because of the nation's urgent and immediate need for every possible ton of sugar, Hawaiian planters have concentrated available labor on harvesting at the expense of the cultivation of young crops. This and other circumstances make it doubtful whether 1944's harvest will match that of 1943.

Despite a shortage of labor and heavy contributions to the war effort and national defense in men, machinery, equipment, and materials, the pineapple industry, second to sugar in importance, managed to produce in the 1943 pack-year 11,103,072 cases of canned pineapple as against 11,010,008 cases for 1942 and 11,056,491 cases for 1941. In canned pineapple juice, production for the 1943 pack-year was 8,782,036 cases as against 8,720,877 cases for 1942 and 11,284,938 cases for 1941.

The Federal Government purchased a substantial portion of the

1942 pack and expects to purchase from the 1943 pack approximately 44 per cent of the canned pineapples and 25 per cent of the canned pineapple juice for Army and Navy and lend-lease consumption.

PUERTO RICO

By Rexford G. Tugwell
Governor of Puerto Rico

DESCRIPTION AND AREA

Puerto Rico is a ridge of high mountains rising from the ocean bottom. It is an island 100 miles long and 35 miles wide, with an area of 3,406 square miles. Its capital, San Juan, is approximately 1,400 miles from New York City and 963 miles from Key West. It is bounded on the north by the Atlantic Ocean and on the south by the Caribbean Sea.

The Island is sub-tropical but its climate is tempered by the trade winds which blow continuously from the northeast. It has an average temperature of 73 degrees F. in winter and 76 degrees in summer. Rainfall is generally abundant except in certain sections on the southern coast. There, crops are grown under irrigation.

Historically the Island is one of the oldest parts of Spanish America. Christopher Columbus discovered it in the course of his second voyage on Nov. 19, 1493. The Spaniards changed the Indian name, "Borinquen," to "Puerto Rico," (Rich Port) presumably because of the exceptionally fine harbor where San Juan is now located.

The population of Puerto Rico in 1940 was 1,869,255 persons, or 544.2 per square mile. No other place in the western world has so dense a population depending upon an agrarian economy. More than two-thirds of the inhabitants live in rural areas. San Juan, on the north coast, is the largest city, with a population of 169,247. The second and third largest cities are Ponce on the south coast with a population of 105,116 and Mayaguez at the west end of the Island with 76,487 inhabitants.

Since the Spanish-American War the Island has been a possession of the United States. Spanish is the mother tongue, but English is taught in the schools and the majority of educated persons speak, read, and write English. The official language is English, and practically all commercial correspondence with the mainland is carried on in that tongue.

GOVERNMENT

The Island is governed under the Act of Congress of March 2, 1917, known as the Organic Act, and subsequent amendments. The Governor, who is appointed by the President of the United States by and with the consent of the Senate, is the executive. He holds office at the pleasure of the President.

The act provides for seven departments—Justice, Health, Interior, Education, Treasury, Agriculture and Commerce, and Labor—and the Auditor's office. The Attorney General, who is head of the Department of Justice, the Commissioner of Education, and the Auditor are appointed by the President by and with the advice and consent of the United States Senate. The Commissioners heading the other departments are appointed by the Governor with the advice and consent of the Insular Senate. The heads of the Departments form the Executive Council.

Amendments to the Organic Act of Puerto Rico are pending in Congress, by which Puerto Rico may be granted a popularly elected Governor, besides some further important prerogatives of self-government.

Puerto Ricans of both sexes, each four years, elect their own legislature which is comprised of a Senate with 19 members and a House with 39 members. The island is divided into 77 municipalities. Each municipality has its own Mayor and Council whose acts are subject to review by the Executive Council.

The Resident Commissioner, elected by the people of Puerto Rico, represents the island in the Congress of the United States. He has the right to debate, hold committee assignments, and to introduce bills but does not have the right to vote.

The judiciary system consists of the Supreme Court, the District Court of the United States for Puerto Rico, the district and municipal courts, and justices of the peace. Appeals may be made in certain cases to appropriate higher courts, including the Supreme Court of the United States. The Chief Justice and four Associate Justices of the Supreme Court, the District Judge, District Attorney and Marshal of the U. S. District Court for Puerto Rico are appointed by the President. Statutory laws of the United States not locally inapplicable, unless otherwise provided, are in effect in Puerto Rico.

Puerto Ricans are citizens of the United States, but they can vote in Presidential elections only when they are living on the mainland.

Puerto Rico has been held by the United States Supreme Court to be unincorporated territory of the United States, a status differing from that of those territories which have been incorporated into the Union.

THE WAR EMERGENCY

Other important developments during the year were overshadowed by the shipping shortage resulting from the war, and the very serious effects of this shortage on the Island's economy. To understand what a shipping shortage means to Puerto Rico, it should be recalled that this island, with its nearly 2,000,000 population, is dependent upon the continent for a third of its food and almost all of its clothing and other essential commodities.

Puerto Rico's shipping first began to feel the effects of the war as early as March, 1942. In June, incoming civilian cargo fell to less than a quarter of normal receipts. The situation became extremely critical in September, 1942 when almost no civilian supplies arrived. Up to this point, matters were made worse by the fact that no government control was exercised over the use of the meagre tonnage available.

The strenuous efforts of the Insular Government and the Federal Department of the Interior were successful in averting the disaster which appeared almost inevitable in September. Representations of Puerto Rico's minimum shipping needs were made to the War Shipping Administration, with the result that additional tonnage was made available. An agreement was reached between the Department of the Interior and the Department of Agriculture whereby the Surplus Marketing Administration (now the Food Distribution Administration) undertook to supply the island with basic foods. The War Shipping Administration authorized a system of cargo space control which made it possible to assure proper use of available space.

Before the tide finally turned, however, the economy of Puerto Rico sank to a level not far above the point of disintegration. For a considerable period basic foods, such as rice and dried codfish, were virtually unobtainable. Wholesalers and retailers generally were threatened with bankruptcy by the depletion of stocks.

Improvement in the supply situation, which began to be noticeable in December, 1942, continued at an increasing rate, with the result that conditions steadily improved. Instead of critical shortages there are now substantial surpluses of most basic commodities. Industry and business have revived and this revival is reflected in employment figures.

LEGISLATION

The Fifteenth Legislature met in its Third Special Session on Oct. 26,

1942. Among the most important bills passed at this session were those establishing an Insular Victory Tax, and authorizing a program of emergency relief and work relief.

The Third Regular Session of the Fifteenth Legislature convened on Feb. 9, 1943. Of the 365 bills passed, 210 were approved by the Governor. Two new, important government agencies were created—the Division of Public Welfare in the Department of Health and the Committee on Design of Public Works. In addition, the Development Bank of Puerto Rico was authorized to begin business, and a bill was passed providing for the establishment of a Procurement Office.

ECONOMIC SITUATION

Puerto Rico's economic situation is incredibly bad, judged by continental standards. Whereas one-third of the population in the States is "ill fed, ill clothed, ill housed," the fraction must be raised to three-fourths for this territory. A study of some 2,500 low income families shows that the average income per family is only $340 per year. During the year, this situation was mitigated by the fact that free food was distributed by the Food Distribution Administration of the U. S. Department of Agriculture to a monthly average of 648,810 men, women, and children.

The Island's economy depends primarily on sugar. The census figures for 1940 show that 28 per cent of all employed workers over 14 years of age were occupied in the cultivation and processing of sugar cane. More than 1,000,000 tons of sugar were produced in Puerto Rico in 1943.

The war has had a favorable effect on Puerto Rico's rum industry. The volume of production in October, 1943 was almost five times greater than in October, 1940.

On the whole, however, the war has weakened rather than bolstered Puerto Rico's precarious economic position. The Island has no war industries. The shipping shortage resulted in a prolonged period of business stagnation. This combination of circumstances complicated the always serious unemployment problem.

LABOR

During the year there were numerous labor disputes caused chiefly by economic pressure resulting from increasing living costs in the face of nearly static income. In this connection, it must be remembered that, since much of the food and practically all other commodities are imported, prices in Puerto Rico are comparable to prices on the continent. The Federal and Insular labor conciliators intervened in 144 cases, and had remarkable success in effecting settlements.

The most serious dispute of the year involved 1,300 railroad workers. When these workers struck, traffic was immobilized for 48 hours, and thereafter the Office of Defense Transportation took over the management of the road under an executive order of the President of the United States. An adjustment was made through the War Labor Board.

INDUSTRIAL DEVELOPMENT

A significant forward step in the struggle to improve the economic position of the territory was the establishment of the Puerto Rico Development Company, the purpose of which is to stimulate the growth of industry through the use of private or government capital, or a combination of both. The company made substantial progress in this direction during the year. A glass factory to produce bottles, principally for the rum trade, and other glassware, is nearing completion and is expected to begin operation shortly. Plans are going forward for the establishment of other industries.

AGRICULTURE

The war produced special problems in the field of agriculture. In view of the shipping shortage, there was an imperative need to expand local food crop production to the limit. In spite of the difficulty of securing seed and fertilizer, much was accomplished.

The following two developments added greatly to the effectiveness of the food crop production program: (1) the requirement of the Agricultural Adjustment Administration that sugar cane growers plant food crops in order to qualify for benefit payments under the Sugar Act; (2) an agreement between the U. S. Department of the Interior, the U. S. Department of Agriculture, and the Insular Department of Agriculture and Commerce, under which a seed production, marketing, and price support program was inaugurated.

Regular programs of Federal and Insular agricultural agencies were carried on in so far as the emergency would permit, including the work of both the Insular and Federal agricultural experimental stations.

LAND

Puerto Rico has long suffered from the problem of the landless, arising from the concentration of landownership in the hands of a small group. A move to remedy this situation was made by Congress in 1900 when it passed a Joint Resolution prohibiting corporations engaged in agriculture in Puerto Rico from owning more than 500 acres of land. It was not until 1940, however, that the question of the constitutionality of this measure was finally answered in the affirmative by the Courts. Thereafter the Insular Legislature passed the Land Act, outlining a specific land program and establishing the Land Authority to implement it.

During the fiscal year 1942-43, the Land Authority acquired 16,101 acres of land in 30 different municipalities at a total value of $2,051,801.08, an average of $125.21 per acre. A total of 4,212 families (about 22,000 persons) have received parcels of one-fourth to one acre each. Six proportional-profit farms, comprising 5,371 cuerdas, are being operated. Laborers on these farms receive wages and may also participate in profits.

FINANCES

Because of the dark prospect at the beginning of the year, the Treasurer cautiously estimated probable receipts at $28,000,000. Actually, over $41,000,000 was collected. This was an all-time peak—over $4,000,000 more than the previous year. Income taxes accounted for much of the increase, collections rising from $7,635,383 the previous year to $11,312,371. During the year, the public debt was reduced from $23,700,000 to $16,398,000, the lowest level in 20 years.

HEALTH

The Department of Health's report on vital statistics shows an increase in the birth rate for 1942 of 1.2 per cent over the previous year. The death rate was 16.6 per cent as compared with 18.4 per cent the previous year. The leading causes of death were diarrhea and enteritis, tuberculosis, pneumonia, and heart disease. Strenuous efforts were continued to combat venereal disease. One special hospital for the treatment of venereal disease was opened, and plans were made for several more.

EDUCATION

Enrollment in the public schools of Puerto Rico continued to increase. The total enrollment for 1942-43 was 321,568, or 9,232 more than in the previous year. The language problem was given serious attention. Experts from the continental United States were brought to the Island to study the effect of teaching in two languages.

The University of Puerto Rico underwent a major change. Under the new University Law, which became effective during the year, the old Board of Trustees was superseded by a High Council of Education. A new Chancellor was appointed, and he immediately instituted basic reforms.

PUBLIC UTILITIES

A number of major changes took place in the utilities field. The principal one was the taking over of the properties of the Porto Rico Railway Light & Power Company and the Mayaguez Light, Power & Ice Company by the Federal Works Administration, under the Lanham Act, as an emergency measure. The operation of these properties was placed in the hands of the Water Resources Authority, an insular government agency established to develop the power resources of the Island.

In November, 1942, the Puerto Rico Transportation Authority acquired the White Star Bus Line, serving the metropolitan area of San Juan. At the time the Authority took over, not more than 40 of the 229 buses belonging to the company, were fit for service. By December, 1943, however, in spite of the difficulty of obtaining repair parts and tires, the Authority had nearly 100 buses moving.

PLANNING

The Puerto Rico Planning, Urbanizing, and Zoning Board began work in August, 1942. It has broad powers, granted by the Legislature, to set up a comprehensive financial program for the insular government, including both capital improvements and current expenses. The Board's first six-year program was submitted to the Governor in December, 1943. The Board is cooperating with the War Emergency Program by classifying and reviewing all applications for work relief projects.

THE PHILIPPINE ISLANDS

By B. W. Thoron

Director, Division of Territories and Island Possessions,
Department of the Interior

JAPANESE OCCUPATION

On Dec. 8, 1941 (Manila time) the Philippines were invaded by the Japanese armed forces. On Jan. 2, 1942, the Japanese entered the city of Manila. Bataan fell on April 9. Effective resistance ended with the fall of Corregidor on May 6.

On Jan. 23, 1942, the Japanese Commander-in-Chief ordered the establishment of an Executive Commission, under the chairmanship of Jorge B. Vargas (formerly secretary to President Quezon of the Commonwealth of the Philippines, with the rank of cabinet member), to direct the administration of the Philippine government under the supervision and control of the Japanese Military Administration.

Japanese propaganda in the Philippines soon adopted the line that the Philippines were to be given their "independence" as soon as they had demonstrated their readiness for such a status, presumably by willingness to cooperate with Japan in the establishment of the Greater East Asia Co-Prosperity Sphere. Toward the middle of 1943, the Japanese sponsored the appointment of an Independence Preparatory Commission and of a sub-committee for the drafting of a constitution for an "independent Philippines." On Oct. 14, 1943, the Philippines were declared to be independent, the government of the "Philippine Republic" was inaugurated, and the Executive Commission ceased to function. José P. Laurel was selected as President of the puppet "Philippine Republic." Vargas, who seems to have faded more and more into the background during the course of the year, was subsequently made Ambassador to Japan.

POLITICAL AND GOVERNMENTAL STATUS

The legal status of the Philippine Islands is that of an unincorporated territory of the United States. Under the program provided by Congress in the Independence Act of 1934, complete independence of the islands will be established in 1946, although in October, 1943 President Roosevelt asked Congress to grant him authority to proclaim independence of the Philippines "as soon as feasible." The act specifically sets forth the general powers and authority reserved to the United States during the transitory period of the Philippine Commonwealth Government.

The public debt may not exceed limits now or hereafter fixed by the Congress of the United States; trade relations with the United States continue to be governed exclusively by Congress; Philippine legislative acts affecting currency, coinage, imports, exports, and immigration do not become effective until approved by the President of the United States; foreign affairs remain under the direct supervision and control of the United States; all acts passed by the legislative body must be reported to the Congress of the United States; decisions of the courts of the Commonwealth Government are subject to review by the Supreme Court of the United States; citizens and corporations of the United States enjoy in the Commonwealth of the Philippines all the civil rights of citizens and corporations of the Philippines.

The United States reserves the right to maintain military and other reservations in the islands until independence and to occupy naval reservations and fueling stations after independence. There is also reserved to the United States the right to intervene under certain conditions set forth in the act. During the period of the Commonwealth Government a United States High Commissioner "shall be the representative of the President of the United States in the Philippine Islands."

CITIZENSHIP

Citizens of the Philippine Islands owe allegiance to and are under the protection of the United States but are not citizens thereof. Those who have had honorable service of not less than three years in the United States Army, Navy, Marine Corps, or Coast Guard may become citizens of the United States. For purposes of immigration the Philippine Islands are considered as a separate country, and the number of immigrants that may enter the United States therefrom during each fiscal year is limited to 50.

GOVERNMENT ORGANIZATION—EXECUTIVE

Under the constitution drafted in accordance with the provisions of the Independence Act of 1934, the executive power was vested in the President of the Philippines elected by the Filipino people for a six-year term and ineligible for reelection. By an amendment to the Constitution, approved by the President of the United States on Dec. 2, 1940, the term of the President and of the Vice President was changed to four years; the tenure of the President was limited to eight consecutive years. The President controls all executive branches and has general supervision over local governments. He appoints all high officials of the Government and all minor officials not otherwise provided for. The President is commander-in-chief of the armed forces of the Philippines; in emergencies he may suspend the privileges of the writ of habeas corpus or place the Islands under martial law. He has power to grant reprieves and pardons and remit fines and forfeitures, after conviction, for all offenses, except in cases of impeachment.

There are nine executive departments. Three of the 12 cabinet members—Vice President, Secretary to the President, and Resident Commissioner in Washington—are without portfolio. The Auditor-General is appointed by the President for a ten-year term and is not eligible for reappointment. The Philippine Resident Commissioner to the United States is appointed by the President of the Philippines.

LEGISLATIVE AND JUDICIAL

Under the Philippine constitution, the legislative power was originally vested in a unicameral body called the National Assembly to meet every year in regular session for not more than 100 days. Under an amendment to the constitution, the Congress is composed of a House of Representatives of 98 members and a Senate of 24 members elected at large every six years. The membership of the House of Representatives, apportioned on the basis of population, is elected by popular vote every four years. Special sessions are limited to 30 days.

Close control and supervision over the natural resources of the islands is given to the Congress. This body is empowered to legislate with reference to public lands, timber, and mining. Prior to 1935, legislation on these subjects required the approval of the President of the United States before becoming effective. Heads of departments may be heard before the Congress. Veto provisions are similar to those in the United States Constitution, except that the President may veto specific items in appropriation, tariff, and revenue bills.

The judicial branch of the Commonwealth Government is composed of the Supreme Court, Court of Appeals, Court of Industrial Relations, Courts of First Instance, justices of the peace courts, and municipal courts.

GOVERNMENT-IN-EXILE

When it became evident that it would be impossible to prevent Manila from falling into the hands of the enemy, the United States High Commissioner, with a part of his staff, and President Quezon, with the Vice President and certain other members of his cabinet, transferred their offices to Corregidor. Most of them were later evacuated to Australia and then to Washington, D. C. On May 14 the President of the Philippines formally established in Washington a government-in-exile, composed of four cabinet members including the Philippine Resident Commissioner who serves without portfolio. The following month the Commonwealth Government was invited to join the United Nations, and President Quezon signed the pact on behalf of his country. On June 25 he took his seat in the Pacific War Council.

Early in November 1943, the Congress passed and the President signed a Joint Resolution continuing President Quezon and Vice President Osmena in their respective offices until normal processes of government are restored in the Philippines despite the provisions of the Philippine Constitution, referred to above, which would have terminated President Quezon's term of office on Nov. 15, 1943.

UNITED STATES HIGH COMMISSIONER

During the last half of 1941 the functions of the office of the High Commissioner were substantially expanded. Even before war broke out, the major part of the time of the High Commissioner and many of his staff was devoted to work connected directly or indirectly with the growing emergency. Administration of priorities was in part assigned to his office. Close attention was given to the Philippine sugar relief program. An important part of the work was concerned with matters connected with civilian defense and with economic controls, notably foreign funds control and export control, which was greatly expanded in scope. One of the major tasks undertaken in connection with foreign funds control was the taking of a census of alien-owned property in the islands. Studies were made of relief necessary to avoid the forfeiture of property interests due to the inability of debtors in captured or besieged areas to pay their obligations.

The President of the United States transferred to the High Commissioner the powers and authority, in so far as the Philippines were concerned, conferred upon him in the First War Powers Act, 1941. These powers were very broad, including authority to take over for safekeeping securities, gold bullion, silver and paper currency and other reserves, and to take steps necessary to prevent their falling into the hands of the enemy. The work of collecting tons of this valuable metal and paper in Manila and transporting them to Corregidor, where they were counted and inventoried, was performed with the aid of Army, Navy, and other government officials under most trying conditions. The paper currency and treasury certificates were destroyed; the bullion and other valuables were loaded on a submarine at Corregidor and transferred in mid-ocean to another naval vessel. Every ounce of gold and every security accepted by the office of the High Commissioner for safekeeping reached the United States safely.

High Commissioner Francis B. Sayre arrived in Washington on March 23, 1942 and submitted his resignation to the President. It was accepted as of June 30. Under date of Sept. 16, 1942, the President, by executive order, transferred to the Secretary of the Interior the functions of the United States High Commissioner.

TRADE

Due to the outbreak of war with Japan, only the data covering overseas trade for the period January to September are available. During those nine months of 1941 the total external trade of the Islands amounted to $245,532,635. This included gold and silver exports valued at $38,542,914, which almost equaled their value for the whole of 1940. Of the total, $111,606,186 represents imports and $133,926,449 exports. Compared with 1940, both the import and export trade showed increases. The increase in exports was due primarily to higher prices received for copra, coconut oil, abaca, and other export products.

Little progress has been made toward the adjustment of Philippine economy to a position independent of preferences in the American market. Conditions during the period under review tended to make the Philippines more than ever dependent on the United States. As showing the predominance of the United States and its possessions in the trade economy of the Philippines, of the total overseas trade, $203,526,409 (or nearly 83 per cent) represented trade with the United States and territories, as compared with 81 per cent in the corresponding period of 1940. Merchandise from the United States and territories was valued at $90,113,868, representing 81 per cent of the total imports. Philippine shipments to the United States and territories, including gold and silver, were valued at $113,412,541, or 85 per cent of the total exports. The increase in merchandise sent to the United States in the nine-month period was 18 per cent over that during the similar period of 1940.

Trade with Europe declined 70 per cent, but this was more than offset by gains in trade with the United States, Asia, and Oceania. Increases were noted in the value of trade with all important Oriental countries except Netherlands East Indies. It should be noted, however, that a large part of this trade consisted of re-exports. Trade with the Axis and Axis-controlled countries practically disappeared; that with Great Britain declined to a little over half its value in 1940.

The total trade was 11 per cent above that for the corresponding period of 1940 and over 84 per cent of the trade value for the entire year 1940. Had conditions remained normal, there appears little doubt that total values for the year would have registered an all-time high. The Japanese invasion near the end of the calendar year 1941 brought about the abrupt suspension of trade relations between the United States and the Philippines.

Under this authority some $35,000,000 of sugar excise funds were transferred to the United States War Department and became available for payment to the Commonwealth Government for the purposes indicated. Only some $5,000,000 of these funds are believed to have been expended.

FINANCES AND GENERAL CONDITIONS

On Sept. 30, 1941, the most recent date for which such information is available, monetary circulation amounted to $100,222,716, well above the average. The general condition of the banks at that time was considered satisfactory. Collections of the United States excise tax on Philippine coconut oil continued to be turned over to the Commonwealth treasury. These collections, which have varied from $16,000,000 to $20,000,000 a year, have been an important part of the total income of the Commonwealth Government.

At present the Commonwealth treasury has a relatively large amount of funds on deposit in the United States, consisting principally of currency reserves and special coconut oil tax funds. A substantial amount of the securities owned by the Commonwealth Government, including investments pertaining to the sinking funds of the public debt, are also on deposit in the United States. The Commonwealth Government is continuing to pay the interest on its public debt which is largely held by investors in the United States.

No authentic statistical data with regard to general economic conditions in the Philippines since the Japanese occupation are available. Such general information as is available, however, indicates clearly that there has been a marked deterioration in the economic situation of the Philippines. Japanese broadcasts have admitted a three-fold increase in the cost of living since the outbreak of war. Although minimum wages and salaries were originally reduced materially, during the past year these minims have been raised by the Japanese to levels exceeding those prevailing at the outbreak of the war.

The increase in the cost of living appears to be partly the result of excessive issue of Japanese military pesos and partly the result of such factors as failure to restore the transportation system of the Philippines, requisitioning of food products and diversion of production to war purposes. Thus it has been reported that considerable quantities of coconut oil are being utilized for fuel and that the sugar industry has been largely converted to the production of alcohol. The Japanese claim they are making an intensive effort to promote economical self-sufficiency for the Philippines. There have been reports of Japanese efforts to promote the cultivation of cotton in substitution for sugar cane, but so far these efforts have not met with any marked success. The Japanese are apparently devoting great effort to exploitation of the copper resources of the Philippines and, according to reports, have shifted a large part of the mining equipment formerly utilized in gold mining to copper mining.

LOYALTY OF FILIPINOS

Confirming assurances of loyalty given on several occasions prior to the outbreak of war, President Quezon, in his inaugural address on Dec. 30, 1941, pledged the Filipinos to "stand by America and fight until her victory is won." Throughout the four-month long Luzon campaign the Filipino troops incorporated into the United States Army fought valiantly and to good effect in resisting the Japanese attack. Since then there have been reports of guerrilla warfare still being waged against the invaders in the more remote sections of the archipelago. In connection with the commemoration of the seventh anniversary of the Philippine Commonwealth, President Quezon declared that 20,000 Filipino soldiers had given their lives for freedom and 75,000 others had fought to the last. On that occasion the President of the United States, who earlier had stated that their gallant struggle "elicited the profound admiration of every American," said: "The brave peoples of the Philippines—their army and their civilians—stood shoulder to shoulder with the Americans in the fight against overwhelming odds—resolute to shed their blood in defense of their liberty. Richly do they deserve that liberty!"

Such information as is available indicates that the great mass of the people have continued loyal to the United States despite every effort of Japanese propaganda, bribery, and intimidation. A substantial number of leading Filipino politicians, however, appear to be collaborating with the Japanese, but even among this group the collaboration is believed to result more from opportunism and Japanese pressure than from conviction.

VIRGIN ISLANDS OF THE UNITED STATES

By Robert M. Lovett

Executive Assistant to the Governor of the Virgin Islands

DESCRIPTION

The Virgin Islands, discovered by Columbus in 1493, comprise some 1,600 islands and cays of which 50 belong to the United States, the others to Great Britain. The area of the former is 132 square miles, with a population of 24,880, according to the census of 1940, of which approximately 10 per cent are described as white, 70 per cent as Negro, and the remainder as mixed, including possibly 10 per cent Puerto Ricans. The Virgin Islands of the United States as a whole are governed as a dyarchy under the Department of the Interior. The Organic Act of 1936 prescribes that the Governor, Government Secretary, and heads of departments shall be appointed by the Federal Government. The two municipalities of St. Thomas-St. John and St. Croix, corresponding to the three largest islands, each elects by universal suffrage a Municipal Council, with power over municipal finances and appointment of municipal officers subject to review by the Governor.

COST OF THE ISLANDS

The Virgin Islands of the United States constitute the latest addition to American territorial possessions, and were acquired in 1917 from Denmark in consequence of the threat of compulsory sale to Germany, already foreshadowed by evidences of German penetration. The purchase price was $25,000,000, by far the largest ever paid by the United States for the acquisition of territory. It represents $295 per acre, as compared with $0.02 for Alaska, $0.03 for California, $0.04 for Louisiana, $0.14 for the Philippines, and $35 for the Canal Zone. Since the transfer it is estimated that the Federal Government has spent $13,000,000 for the benefit of the Islands.

PLACE IN NATIONAL DEFENSE

The expenditure was justified. The strategic location of the islands at the angle formed by the east and west line of the Greater Antilles and the north to south curve of the Leeward and Windward Islands, reaching to the coast of South America, gives them a commanding position as a base for the defense of the entire Caribbean area, including the Panama Canal. Necessarily the islands have been subject to military occupation during the past three years. In St. Thomas the United States Marine Corps with Bourne Flying Field, the Navy with the Submarine Base at Krum Bay, and the United States Army are steadily enlarging their operations in establishing coast defences. A system of military roads is being laid out to cover the island from Crown Mountain, its highest point, to the eastern and western extremities. The Army has also established a base at Mannings Bay on the south side of St. Croix with a magnificent flying field.

CIVILIAN DEFENSE

During the past year the war was the dominating factor in Virgin Islands' economy and its effects were evident in all phases of community life. Although the danger of attack by air or surface raider became more remote following the occupation of North Africa by the United Nations, the program of Civilian Defense, initiated with success in the preceding fiscal year, was continued with vigor. Fire defenses were improved, raid drills and black-outs carried out, home guards trained intensively, and the American Red Cross extended its facilities and activities. During the year the armed forces played a large part in the life of the communities of the Virgin Islands, and relations between the military organizations and the civilian population were excellent.

ECONOMIC SITUATION

As the Virgin Islands were early to feel the economic uplift of the war, so they were among the first American communities to experience the inevitable retrogression. During the first half of 1943 defense construction operations gave employment on the Island of St. Thomas to every employable male worker, and the shortage of native labor to meet the abnormal demands resulted in heavy importation of labor from neighboring British Islands. With the reduction of defense construction as the year drew to a close a great many of the imported aliens were repatriated. However, unemployment undoubtedly will be the most serious consideration in the Virgin Islands in the immediate future. Projects for water storage in St. Croix, for the extension of water supply facilities in St. Thomas, and the construction of highways in both islands are being continued.

The attention of the administration has been largely directed to the connected problems of food and shipping. In the previous year, the Department of the Interior, through its special defense appropriation, established civilian food reserves, to insure that basic food commodities would be available to the people of the Islands, in spite of disruption of commercial trade and shipping facilities. Thereafter the function of furnishing basic food commodities to the people was transferred to the Food Distribution Administration of the Department of Agriculture. These supply agencies now operate successfully, with the result that a sufficient supply of foodstuffs is available. The abattoir on the Island of St. Croix, constructed in a prior period from Federal Funds, furnishes dressed meat to the new Cold Storage Market in St. Thomas, likewise constructed from a Federal appropriation.

FINANCES

Financial prospects improved remarkably during the year, mainly by reason of the increase in income taxes on general business, as well as the increased rates and lower exemptions.

The actual revenues of the Municipality of St. Thomas and St. John amounted to $693,801.37, including $23,050 transferred from the Operating Fund of the St. Thomas Virgin Islands Lottery (for construction of the Vocational School and for the induction and maintenance of a food production program), and $6,301.86 transferred from surplus funds of the preceding fiscal year ended June 30, 1942 was $599,116.94. The Budget for the Municipality of St. Thomas and St. John carried total appropriations of $609,254. This was the second successive year that the Municipality of St. Thomas and St. John operated without a Federal deficit appropriation. On June 30, 1943 the Municipal Treasury showed a revenue surplus of approximately $80,000. The revenues of the Municipality of St. Croix amounted to $194,440.63, compared with $196,485.72 in the preceding year, a decrease of 1.04 per cent. The budget for the Municipality of St. Croix carried total appropriations of $353,800; of this amount, local revenues were estimated to supply $194,000, and the Federal deficit appropriation $114,800.

THE VIRGIN ISLANDS COMPANY

The Virgin Islands Company was established by the Federal Government in 1934 to rehabilitate the economy of St. Croix by the growing of sugar cane and the manufacture of rum. After a period of discouragement owing to drought the year 1943 can report a change for the better. The Central Factory ground 43,093 tons of cane processed into 3,677 tons of sugar (raw value) and 57,978 proof gallons of "Government House" cane juice rum (made from 2,938 tons of the cane). Administration and colono cane ground amounted to 18,659.4 and 24,433.6 tons, respectively, harvested from 1,400 cane acres of the Company and approximately 2,000 acres belonging to colonos. The Company has 2,679 acres in cane cultivation. This year colono participation increased from 617 in 1942 to 709 growers, and since the benefit payments have been applied to St. Croix (beginning with the 1942 crop) it is reasonable to expect that from year to year there will be a continuing increase in the number of small growers participating. From Jan. 1 to Oct. 31, 1943, the Company exported 2,388 tons (2240#) of raw sugar, and 122,110.60 proof gallons of Government House rum. Total production of rum and special distillate during this period amounted to 362,917.72 proof gallons.

In addition to the manufacture of raw sugar and Government House rum, The Virgin Islands Company operates a rural electrification system and a rock quarry and crusher. It has a modern abattoir which is operated by the St. Croix Livestock Association, and operates a meat market in St. Thomas, designed for cold storage facilities and the key distribution point for meats processed at the St. Croix abattoir for the Armed Forces in the Caribbean area, as well as civilian St. Thomas and Puerto Rico. The company also owns and operates a motor yacht for dispatching the meats to St. Thomas, and for handling general inter-Island cargo. It has a well-equipped poultry farm which is leased to an operator who supplies poultry and eggs to the Island. It rents tractors, farm equipment, and land, and does general repair work in its machine shops for the people of the Island.

The Company has 11 villages housing approximately 421 families rent-free, and provides each family with one tenth of an acre of land plowed and prepared for planting a provision garden. It provides four nursery schools, two of which serve as community buildings for evening social events. During non-crop the Company employs approximately 500 persons, and approximately 600 during the crop season—Feb. 17 to Aug. 14. G. L. Pace is president of the Company and is resident director of operations.

THE DISTRICT OF COLUMBIA

By W. Reed West

Professor, The George Washington University

UNEMPLOYMENT COMPENSATION

The District Unemployment Compensation Act has been amended by the enactment of a new law (Public No. 65) that replaces the old act of 1935 (see The American Year Book, 1935 and subsequent years). The most important feature of the new law is a change in the plan of employer contributions.

On Feb. 28, 1943, the District unemployment reserve fund amounted to $34,320,397.49. It was estimated at the hearings on the bill that if present withdrawals remained constant the fund was sufficient to pay out all benefits for approximately 18 years, without any further employer contributions. The new law replaces the old flat rate of 2.7 for employer contributions by an experience-rating system in which employers will be grouped into six classes paying 2.7, 2, 1.5, 1, 0.5, and 0.1, based on the relation between each employer's reserve and his payroll, so that employers will pay lower rates in accordance with high employment stability. Similar experience-rating systems already exist in 38 states. Contributions are made a lien upon each employer's assets.

To protect the solvency of the fund it is provided that if the total balance in the fund in any year drops below five per cent of the total annual pay rolls, each employer's contribution shall be increased by the percentage of the deficiency, but not beyond 2.7. If the balance drops below 2.4, all employers are to pay 2.7.

Maximum benefits to the unemployed are increased from $18 a week for 19 weeks to $20 a week for 20 weeks. The "waiting period" is reduced from two weeks to one. The benefits thus provided for are liberal as compared with those in most states.

Coverage of employment has been made to conform as nearly as possible with the coverage under the Social Security Act. A special provision has been added to protect the rights of employees entering the armed forces in the present war.

PROPERTY TAXES AND ASSESSMENTS

The old law had charged to abutting property owners, with certain exceptions, one-half of the cost of paving the streets and one-half of the cost of curbs and gutters. The character of the street paving had been determined in earlier times by the needs of the abutting property, for the condition of the street was primarily of interest to the abutting owners. Today, however, the character of the paving is determined primarily by the needs of general city traffic. Curbs and gutters, however, are more directly related to the needs of abutting property.

In 1941, the Commissioners had recommended an increase in the motor-vehicle tax and a change in the method of assessing for roadway improvements. The tax was increased but the method of assessment was not changed. In 1943, however, an act (Public No. 54) abolished assessments for roadway improvements. Half the cost of new curbs and gutters is still charged to the abutting owners, with certain adjustments to relieve shallow lots, unsubdivided lots, and those abutting on more than one street, of inequities arising from the front-foot rule. No assessments are to be made for replacements, but only for new curbs and gutters.

Two acts, relating to taxes, require that tax notices be sent to owners of land (Public No. 157) and that owners of tax-exempt properties be notified annually of their contingent tax liability and that forms be sent to them for their annual reports (Public No. 154). Failure to receive a notice does not relieve the taxpayer of penalties for delinquent payment.

LEGISLATION RESULTING FROM THE WAR

A number of Acts grew out of war conditions. The blackout law (see THE AMERICAN YEAR BOOK, 1941, 1942) was amended to permit the commissioners, during a state of war to spend not more than $25,000 a year in the coordination of non-protective volunteer civilian services (Public No. 145). This will permit expenditures in connection with such programs as war savings, salvage collection, Victory gardens, and group riding.

The Minimum Wage and Industrial Safety Board was authorized during the period ending June 30, 1945, or such earlier date as Congress may determine by concurrent resolution, to permit the employment of females for not exceeding 54 hours a week, with pay and a half for overtime (Public No. 63). In view of the butter shortage, the Saint Elizabeths Hospital was authorized to use butter substitutes when "the procurement of an adequate butter supply is not feasible" (Public No. 136). A bonus amounting in most cases to $300 was granted to a large group of District employees whose pay had not been adjusted in other ways to war conditions (Public No. 22). Another act resulting from war conditions requires the labeling of horse meat and its products (Public No. 111).

MINOR LEGISLATION

The compensation of the Recorder of Deeds was increased from $6,400 to $8,000, and that of the Superintendent of the National Training School for Girls from $2,700 to $3,600 (Public No. 155). The Public Library was designated a depository for government publications (Public No. 153).

CONCEALED WEAPONS

The old law of the District prohibited the carrying of concealed weapons, but in several recent cases it had been held that, to come within the statute, the weapon must be concealed at the time it was proved to be in possession of the defendant. Persons who, upon the approach of officers, put their weapons into view were not guilty of violation of the law and the purpose of the act was frustrated. An act (Public No. 182) has remedied this defect by prohibiting the carrying of weapons capable of concealment on the person, either openly or concealed. Similar statutes are found in a number of states, including New York, Connecticut, and Indiana.

ADJOURNMENT OF CONGRESS

The early adjournment of Congress before Christmas left much important legislation on the calendars or in committee. Remaining on the House Calendar was a bill to adjust a long-standing dispute over the exact boundary between the District and the State of Virginia.

In the Senate, under consideration in committee was the McCarran bill for the reorganization of the District government. For a number of years there has been agitation for one or other of two types of proposal in respect to the franchise for the District. One type has had for its purpose to give to the people of the District a voice in national affairs, such as a representative in Congress. The other has been directed toward giving District residents a voice in their own local government. The McCarran bill, which has been much in recent public notice, is of the latter type. It provides for a city manager plan with a commission of seven members elected by districts. One of the problems in providing for self-government in the District has been to reconcile this with the national interest in the District. This was provided for in the McCarran bill by requiring that most ordinances and regulations become law only if approved in writing by the chairmen of the District committees of the Senate and House; or if not disapproved by one of the two chairmen within 15 days of submittal to them; or if ratified by concurrent resolution of the two Houses; or if a concurrent resolution calling for disapproval fails to pass the two houses of Congress.

Feeling in favor of local self-government was aided by the disclosure of unsatisfactory conditions in Gallinger Hospital, the District municipal hospital, for which conditions neglect by Congress was alleged to be, in part at least, responsible. However, opinion in the District was divided upon this bill since there are some who believe that the present system is fairly satisfactory, some who believe that Congress should not divest itself of intimate control of the seat of government, and others who feel that the proposed legislation does not grant sufficient local autonomy to justify the change.

PART THREE

GOVERNMENTAL FUNCTIONS

DIVISION VII

PUBLIC FINANCE AND TAXATION

NATIONAL FINANCE AND THE PUBLIC DEBT

By William J. Carson
Associate Professor, University of Pennsylvania

THE MOUNTING COST OF WAR

National finance in 1943 was dominated by war financing. In his budget message to Congress in January 1943, President Roosevelt called for a $104,000,000,000 expenditure program and said this would represent the nation's maximum program for waging war. A year later, in January 1944, with total expenditures estimated to be $99,276,000,000 for the fiscal year ending June 30, 1944, he said approximately this program would be reached. Raising and handling the sums necessary to meet these gigantic outlays were the major tasks of the country's fiscal authorities in 1943.

Funds amounting to approximately 41 per cent of this sum were provided through taxation and 59 per cent were borrowed. Net receipts from taxation in fiscal 1944 are estimated to be $41,186,000,000, and the increase in the public debt is estimated to be $60,904,000,000. At the end of June 1943 the Federal debt totaled $136,696,000,000; by the end of June 1944 it is estimated to be $197,600,000,000.

In fiscal 1943 total expenditures were $79,679,000.000, receipts from taxation were $22,282,000,000, and the increase in the public debt was $64,274,000,000. On the basis of these figures it is interesting to note that the increase in receipts from taxation in fiscal 1944 was only slightly less than the increase in expenditures. As a consequence the increase in the public debt was less than in fiscal 1943.

Table I summarizes the receipts, expenditures, and the deficit in fiscal 1943, and the estimated receipts, expenditures, and deficit in fiscals 1944 and 1945.

FEDERAL EXPENDITURES

Total expenditures of $99,276,000,000, excluding debt, retirement, and trust account expenditures, estimated for fiscal 1944 as shown in the table are 25 per cent greater than the total of $79,697,000,000 in 1943. For fiscal 1945 they are estimated to be $99,769,000,000, approximately the same as in 1944. Of the total of $99,276,000,000 for 1944, war expenditures will amount to $92,000,000,000; non-war expenditures to $7,276,000,000. Of the non-war activities, interest on the public debt totals $2,650,000,000, an increase of 41 per cent over 1943.

In his budget message to Congress in January 1944, President Roosevelt summarized the growth and use of war expenditures for the period from July 1940 when our defense program began through the fiscal year 1945. He said:

"In June, 1940, when France fell, we recognized that we were in mortal danger and that only by building our strength to the utmost would we have a chance to maintain peace or to attain victory if we were attacked. We then embarked on a program of preparedness, converting our factories and constructing a new munitions industry of gigantic size. At the time of Pearl Harbor, we were in the first stages of training the Army, strength-

TABLE I

GENERAL BUDGET SUMMARY

Comparative Statement of Receipts and Expenditures
General and Special Accounts

	Estimated, Fiscal 1945	Estimated, Fiscal 1944	Actual, Fiscal 1943
Receipts (based on present legislation):			
Direct taxes on individuals	$18,113,100,000	$19,422,600,000	$6,952,449,156.13
Direct taxes on corporations[1]	15,404,400,000	14,136,900,000	9,915,701,979.30
Excise taxes	4,251,510,000	4,273,810,000	3,776,956,397.87
Employment taxes	3,181,600,000	1,881,900,000	1,507,919,214.04
Customs	438,000,000	420,000,000	324,290,778.06
Miscellaneous receipts	2,036,770,000	2,442,900,000	907,327,977.14
Total receipts[1]	$43,425,380,000	$42,578,110,000	$23,384,645,502.54
Deduct net appropriation for Federal old age and survivors insurance trust fund	2,656,380,000	1,392,090,000	1,103,002,793.30
Net receipts, general and special accounts[1]	$40,769,000,000	$41,186,020,000	$22,281,642,709.24
Expenditures:			
War activities (tentative estimate for 1945) (see also Government corporations below)	$88,200,000,000	$88,500,000,000	$72,108,862,204.06
Interest on the public debt	3,750,000,000	2,650,000,000	1,808,160,395.51
Other activities:			
Legislative establishment	$ 29,549,800	$ 28,756,500	$ 26,694,653.90
The Judiciary	14,157,000	12,233,000	12,020,159.52
Executive Office of the President	3,406,100	2,244,100	2,572,749.22
Civil departments and agencies	1,084,424,500	1,086,237,900	812,437,939.02
Post office deficiency	....	12,677,695	8,611,843.42
District of Columbia (Federal contribution)	6,000,000	6,000,000	6,000,000.00
General Public Works Program	343,491,000	457,477,400	522,524,920.88
Veterans' pensions and benefits	1,252,179,000	865,389,000	599,777,891.72
Aids to agriculture	468,254,000	752,017,000	1,037,231,190.07
Aids to youth	....	20,000	17,914,849.83
Social security program	484,665,000	479,286,000	497,511,233.00
Work relief	2,325,000	43,273,700	317,385,759.88
Refunds	1,799,122,000[2]	411,459,000[2]	79,137,650.84
Retirement funds	471,663,500	473,957,600	322,041,800.00
Expenditures from anticipated supplemental appropriations	45,000,000	170,000,000	....
Total, other activities	$6,004,236,900	$4,801,028,895	$4,261,862,641.30
Total expenditures, general and special accounts, excluding statutory public debt retirement	$97,954,236,900	$95,951,028,895	$78,178,885,240.87
Statutory public debt retirement	....	....	3,463,400.00
Total expenditures, general and special accounts	$97,954,236,900	$95,951,028,895	$78,182,348,640.87
Excess of expenditures, general and special accounts	$57,185,236,900	$54,765,008,895	$55,900,705,931.63

TABLE I—Continued

Checking Accounts of Government Corporations and Credit Agencies, Etc., With the Treasurer of the United States

	Estimated, Fiscal 1945	Estimated, Fiscal 1944	Actual, Fiscal 1943
Net expenditures from checking accounts			
War activities	$1,800,000,000	$3,500,000,000	$2,975,711,475.94
Other activities	15,000,000	175,000,000[3]	1,475,772,673.93[3]
Net expenditures from checking accounts, excluding redemption of obligations in the market	$1,815,000,000	$3,325,000,000	$1,499,938,802.01
Redemption of obligations in the market (net)	1,346,000,000	2,770,000,000	693,746,663.82
Net expenditures, checking accounts of Government corporations and credit agencies, etc.	$3,161,000,000	$6,095,000,000	$2,193,685,465.83
Total general and special accounts expenditures, excluding statutory public debt retirement	$97,954,236,900	$95,951,028,895	$78,178,885,240.87
Net expenditures from checking accounts of Govt. corporations and credit agencies, etc., excluding redemption of obligations in the market	1,815,000,000	3,325,000,000	1,499,938,802.01
Total Fed. expenditures, excluding debt retirement and trust account expenditures	$99,769,236,900	$99,276,028,895	$79,678,824,042.88

Trust Accounts

	Estimated, Fiscal 1945	Estimated, Fiscal 1944	Actual, Fiscal 1943
Receipts (based on present legislation):			
Unemployment trust fund:			
Deposits by States	$1,370,900,000	$1,359,200,000	$1,217,685,690.47
Transfer from gen. and spec. accts.	9,159,528	11,699,700	5,973,300.00
Other receipts	239,764,376	203,963,671	174,865,169.17
Federal old-age and survivors insurance trust fund:			
Net appropriation from general account receipts	2,656,380,000	1,392,090,000	1,103,002,793.30
Other receipts	142,366,207	107,505,074	87,403,022.48
Federal employees' retirement funds:			
Transfer from gen. and spec. accts.	196,762,500	177,321,600	107,240,800.00
Other receipts	359,467,914	109,482,834	266,360,849.02
Railroad retirement account:			
Transfer from gen. and spec. accts.	274,901,000	296,636,000	214,801,000.00
Other receipts	14,900,000	9,600,000	5,776,849.34
Commodity stamp trust fund:			
Transfer from gen. and spec. accts.	....	....	70,555,322.00
Sale of commodity stamps	....	....	84,513,467.25
Other trust accounts:			
Transfer from gen. and spec. accts.	506,000,000	256,000,000	36,933,216.76
Other receipts	976,330,827	840,645,870	551,141,362.42
Total receipts, trust accounts	$6,746,932,352	$4,964,144,749	$3,926,252,842.21

TABLE I—Continued

	Estimated, Fiscal 1945	Estimated, Fiscal 1944	Actual, Fiscal 1943
Expenditures:			
Unemployment trust fund:			
Investments in U. S. obligations..	$1,543,823,904	$1,498,863,371	$1,228,000,000.00
Other expenditures..............	76,000,000	76,000,000	176,167,159.73
Federal old-age and survivors insurance trust fund:			
Investments in U. S. obligations..	2,584,746,207	1,318,595,074	1,035,200,000.00
Other expenditures..............	214,000,000	181,000,000	149,303,977.71
Federal employees' retirement funds:			
Investments in U. S. obligations..	453,461,500	397,835,600	279,878,000.00
Other expenditures..............	87,140,000	87,080,000	85,277,697.13
Railroad retirement account:			
Investments in U. S. obligations..	152,400,000	169,100,000	86,500,000.00
Other expenditures..............	137,000,000	134,000,000	130,464,800.65
Commodity stamp trust fund:			
Redemption of commodity stamps	....	7,200,000	161,410,970.50
Other trust accounts:			
Investments in U. S. obligations..	1,044,059,000	766,645,000	386,916,503.98
Other expenditures..............	407,511,044	325,704,364	125,567,761.56[3]
Total invest. in U. S. obligations	$5,778,490,611	$4,151,039,045	$3,016,494,503.98
Total other expenditures.......	921,651,044	810,984,364	577,056,844.16
Total expenditures, trust accts..	$6,700,141,655	$4,962,023,409	$3,593,551,348.14
Excess of receipts over expenditures, trust accounts....................	$46,790,697	$2,121,340	$332,701,494.07

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[1] Includes the following estimated amounts for excess profits refundable in the post-war period 1945, $624,000,000; 1944, $545,000,000; and 1943, $220,000,000.
[2] Includes transfers to public debt accounts for excess-profits tax refund bonds issued.
[3] Excess of credits, deduct.

ening the Navy, and developing a munitions industry.

"In the period of defensive war, we had to be satisfied with fighting a delaying action and with delivering munitions to our allies while we gained precious time.

"The anxious year of defensive warfare came to an end with the attack on Guadalcanal and the invasion of Africa in late 1942. Thus began the period of aggressive deployment of our forces. During that time we had to build up and fill up the pipelines for military supplies of all kinds as well as establish material reserves for future aggressive operations. The munitions program was then limited only by our productive resources and shipping facilities.

"With pride in the over-all achievements of American management and labor, I can say that we are now well equipped; with pride in the military leadership of the Allied forces, I can say that we are now in a strategic position to make full use of our equipment for decisive blows by land, by sea, and by air.

"The size and composition of our war expenditures reflect these various phases of the preparedness and war program."

Table II gives these figures in detail.

REVENUE AND TAXATION

Net receipts during the fiscal year 1943 totaled $22,282,000,000. In each of the fiscal years 1944 and 1945, they are estimated under present legislation to be $41,000,000,000, about $19,000,000,000 above those of fiscal 1943. This rise reflects increased tax rates in the Revenue Act of 1942, the current Tax Payment Act of 1943, and the higher level of income and profits. In fiscal 1944 direct taxes on individuals are estimated to be $19,500,000,000 and to exceed the amount of direct taxes of $14,137,000,000 on corporations. In 1943 direct taxes on

TABLE II

WAR EXPENDITURES

(Including Net Outlays of Government Corporations)

Period	Average Annual Rate (in Billions)	Estimated P. C. of Total		
		Munitions, Including Ships	Pay Subsistence[1]	War Construction
Preparedness: July 1940–November, 1941	$ 9.8	50	30	20
Defensive war: December, 1941–October, 1942	45.7	56	22	22
Aggressive deployment: November, 1942–December, 1943	83.5	59	28	13
Offensive war: January, 1944–June, 1944[2]	97.0	64	30	6
July, 1944–June, 1945 (fiscal year 1945)	90.0	63	33	4

[1] Including also agricultural lend-lease and other civilian war activities.
[2] On basis of $92,000,000,000 for fiscal year 1944.

corporations were nearly 50 per cent larger than direct taxes on individuals. Direct taxes on individuals in fiscal 1945, however, are estimated under present legislation to be less than in 1944. This is owing mainly to the substantial collections in 1943-44 in connection with the transition to a current basis for individual income taxes. They will still constitute, nevertheless, a larger part of total receipts than direct taxes on corporations.

GROWTH AND DISTRIBUTION OF THE PUBLIC DEBT

At the close of the fiscal year ended June 30, 1943 the Federal public debt was $136,696,000,000. By June 30, 1944 the end of the fiscal year 1944, it is estimated to total $198,000,000,000. A year later, June 30, 1945, it is expected to reach $258,000,000,000. Table III shows the effect of financing operations on the public debt in fiscal 1943, and estimates of the effect of operations in fiscal 1944 and 1945.

TABLE III

FISCAL OPERATIONS AND CHANGES IN PUBLIC DEBT

	Estimated Fiscal 1945	Estimated Fiscal 1944	Actual Fiscal 1943
Public debt at beginning of year	$197,600,000,000	$136,696,090,330	$72,422,445,116.22
Increase in public debt during year:			
General and special accounts, excess of expenditures over receipts	$57,185,236,900	$54,765,008,895	$55,900,705,931.63
Checking accts. of Govt. corporations and credit agencies, etc., net expenditures	3,161,000,000	6,095,000,000	2,193,685,465.83
Trust accounts, excess of receipts over expenditures	−46,790,697	−2,121,340	−332,701,494.07
Statutory public debt retirement	....	....	−3,463,400.00
Adjustment for increase in Treasury cash balance	100,553,797	46,022,115	6,515,418,710.29
Inc. in public debt during year	$60,400,000,000	$60,903,909,670	$64,273,645,213.68
Public debt at end of year	$258,000,000,000	$197,600,000,000	$136,696,090,329.90

Analysis of the composition of the Federal public debt by volume and kind of securities is given in Table IV.

Distribution of the Federal debt among different investors on June 30, 1943 and 1942 is shown in Table V.

On the basis of figures shown in Table V the increase in the Federal debt between June 1942 and 1943 was distributed among all types of investors. The greatest increases were in the holdings of commercial banks and individual and corporate investors. In his budget message the President said over 50,000,000 subscribers to war bonds now own a financial stake in the United States. More than a third of all resources of life insurance companies and mutual savings banks and half of all the assets of commercial banks consist of government bonds.

TABLE IV

UNITED STATES GOVERNMENT DEBT-VOLUME AND KIND OF SECURITIES

Issues	June 30, 1943	June 30, 1942
Interest-bearing debt:		
Public issues:		
Pre-war bonds (World War I), including postal savings bonds	$ 195,960,420.00	$ 195,990,180.00
Treasury bonds	57,520,467,900.00	38,084,533,250.00
United States savings bonds	21,256,166,543.41	10,188,188,461.41
Depositary bonds	226,165,250.00	78,953,000.00
Adjusted service bonds	221,902,200.00	228,507,900.00
Treasury notes	9,167,942,500.00	6,688,911,000.00
Treasury notes (tax series)	1,031,471,025.00	3,014,520,350.00
Treasury notes (savings series)	6,463,975,000.00	....
Certificates of indebtedness	16,561,417,000.00	3,095,578,000.00
Treasury bills	11,863,911,000.00	2,508,298,000.00
Total public issues	124,509,378,838.41	64,083,480,141.41
Special issues:		
Government life insurance fund (adjusted service bonds)	500,157,956.40	500,157,956.40
Federal old-age and survivors' insurance trust fund (notes)	4,043,500,000.00	3,133,300,000.00
Railroad Retirement account (notes)	178,000,000.00	91,500,000.00
Civil service retirement fund (notes)	1,060,321,000.00	782,650,000.00
Foreign Service retirement fund (notes)	6,115,000.00	5,442,000.00
Canal Zone retirement fund (notes)	7,960,000.00	6,678,000.00
Alaska R. R. retirement fund (notes)	1,552,000.00	1,300,000.00
Postal Savings System (notes)	197,000,000.00	55,000,000.00
Canal Zone Postal Savings System (notes)	2,250,000.00	1,000,000.00
Government life insurance fund (notes)	38,000,000.00	36,650,000.00
National service life insurance fund (notes)	351,725,000.00	38,775,000.00
Federal Deposit Insurance Corp. (notes)	103,000,000.00	95,000,000.00
Federal Sav. & Loan Ins. Corp. (notes)	106,078,000.00	5,050,000.00
Adjusted-serv. certificate fund (ctfs.)	18,268,000.00	18,435,000.00
Unemployment trust fund (ctfs.)	4,257,000,000.00	3,114,000,000.00
Total special issues	10,870,926,956.40	7,884,937,956.40
Total interest-bearing debt	135,380,305,794.81	71,968,418,097.81
Non-interest-bearing debt:		
Public issues:		
Matured debt on which interest has ceased (payable on presentation)	140,500,090.26	98,299,730.26
Debt bearing no interest (payable on presentation)	1,175,284,444.83	355,727,288.15
Total non-interest-bearing debt	1,315,784,535.09	454,027,018.41
Total public debt on basis of daily Treasury statement	136,696,090,329.90	72,422,445,116.22

VII. PUBLIC FINANCE AND TAXATION

TABLE V

DISTRIBUTION OF UNITED STATES GOVERNMENT SECURITIES, DIRECT AND FULLY GUARANTEED

June 30, 1942 and June 30, 1943
(In millions of dollars)

	June 30, 1942	June 30, 1943	Change
Total interest bearing securities	76,517	139,472	+62,955
Held by United States Government agencies and trust funds			
Special issues	7,885	10,871	+2,986
Public issues	2,726	3,440	+714
Held by Federal Reserve Banks	2,645	7,202	+4,557
Privately held			
Total	63,261	117,959	+54,698
Commercial banks	26,390	52,460	+26,070
Mutual savings banks	3,890	5,290	+1,400
Insurance companies	8,900	12,800	+3,900
Other investors			
Marketable issues	11,100	19,000	+7,900
Non-marketable issues	13,000	28,400	+15,400

TABLE VI

WAR LOAN DRIVES

(In millions of dollars)

By Types of Investors	Third Drive (September 1943)	Second Drive (April 1943)	First Drive (December 1942)
To nonbank investors:			
Individuals, partnerships, and personal trust accounts	5,377	3,290	1,593
Insurance companies and savings banks	4,128	3,603	2,319
Dealers and brokers	894	544	886
U. S. Government agencies and trust funds	630	391	270
Other nonbank investors	7,915	5,648	2,793
Total to nonbank investors	18,943	13,476	7,860
To commercial banks	....	5,079	5,087
By Types of Securities			
To nonbank investors:			
Series E savings bonds	2,472	1,473	726
Series F and G savings bonds	831	667	288
Savings notes[1]	2,483	1,652	1,335
2½ per cent bonds	3,777	3,762	2,831
1¾ and 2 per cent bonds[2]	5,260	2,817	1,001
Certificates	4,120	3,104	1,679
Total to nonbank investors	18,943	13,476	7,860
To commercial banks:			
Treasury bills	....	810	906
Certificates	....	2,147	2,121
1¾ and 2 per cent bonds	....	2,122	2,061
Total to commercial banks		5,079	5,087

Note.—The figures include only sales made in connection with the drives and do not allow for purchases and sales made in the market by the various types of investors during the drives. Mutual savings banks are included among non-bank investors for purposes of this classification.

[1] Including Series A and C tax savings notes in December, but only Series C savings notes in April and September.

[2] Two per cent bonds were sold in the second and third drives and 1¾ per cent bonds in the first drive.

WAR LOAN DRIVES

As the needs of war financing increased in 1942 and 1943 special war loan drives were inaugurated to sell war bonds to the public. Following the first drive in December 1942 the second was held in April 1943, the third in September 1943, and the fourth was held in January 1944. The results of each of the first three drives as reported in the *Federal Reserve Bulletin,* November 1943, are shown in Table VI.

BOND PRICES AND YIELDS

Rates at which the Federal debt was financed in 1943 continued low and remained fairly stable. Yields on new Treasury bills and on 3-5 year Treasury notes continued at levels to which they had increased in the second half of 1942. Yields on long term bonds declined slightly during the year. Considering the magnitude of the volume of financing, maintenance of rates at these low levels is one of the important achievements of Federal debt policy. Average interest rates of less than 2 per cent on the Federal debt that have prevailed thus far in the Second World War are more than 50 per cent lower than rates in the First World War.

Tables VII, VIII, and IX show in detail the course of yields and prices by months in 1942 and 1943.

TABLE VII

AVERAGE YIELD ON SHORT-TERM OBLIGATIONS OF THE U. S. GOVERNMENT

	1942		1943	
	New Issues of Treasury Bills	3–5 Year Taxable Notes	New Issues of Treasury Bills	3–5 Year Taxable Notes
January	.214	.96	.367	1.29
February	.250	.93	.372	1.24
March	.212	.93	.373	1.33
April	.299	.98	.373	1.39
May	.364	1.03	.373	1.36
June	.363	1.15	.374	1.32
July	.368	1.20	.374	1.30
August	.370	1.25	.375	1.29
September	.370	1.27	.375	1.31
October	.372	1.28	.375	1.31
November	.371	1.28	.375	1.30
December	.363	1.34	....	....

TABLE VIII

AVERAGE YIELDS ON LONG TERM U. S. BONDS

(Partially Tax-exempt)

	1942	1943
January	2.01	2.06
February	2.09	2.06
March	2.00	2.08
April	1.98	2.02
May	1.97	1.92
June	1.97	1.85
July	2.00	1.82
August	2.02	1.83
September	2.03	1.80
October	2.05	1.81
November	2.06	1.83
December	2.09	....

TABLE IX

U. S. GOVERNMENT BOND PRICES

(Monthly Average of Daily Figures)

	1942	1943
January	110.1	109.4
February	108.9	109.4
March	110.2	109.1
April	110.5	109.9
May	110.7	111.4
June	110.7	112.4
July	110.2	112.9
August	109.9	112.7
September	109.8	113.2
October	109.5	113.0
November	109.4	112.3
December	108.9	....

PROBLEMS OF FISCAL POLICY

In this section of THE AMERICAN YEAR BOOK for 1943 it was pointed out that the primary task of fiscal policy in wartime is fourfold: (1) to bring about the fullest practicable use of our productive resources; (2) to facilitate the prompt and adequate diversion of the necessary resources to military needs; (3) to distribute the sacrifices among our citizens in ways that most nearly accord with publicly accepted ideas of fairness; (4) to leave as a post-war legacy as little disorder as possible in the economic structure.

Viewing the first two years of our war program as a whole one may conclude that this task is being achieved with remarkable success and that it is being accomplished with only limited inflation. As the public debt continues to grow, nevertheless, and monetary expansion continues as a consequence, avoidance of inflation will become increasingly difficult, especially in the period following the war.

In order to lessen the danger of inflation a program of much higher taxes is being urged by the fiscal authorities and by students generally of finance and fiscal policy. Such a program is recommended as a step to facilitate economic stabilization during the war as well as to prepare for the fiscal needs of peace and reconstruction.

STATE FINANCES AND TAXATION

By GEORGE H. WATSON

ACTING EXECUTIVE DIRECTOR, FEDERATION OF TAX ADMINISTRATORS

REVENUES

Total state tax revenues exceeded $5,000,000,000 in fiscal years ending in 1943, according to a preliminary report issued by the Bureau of the Census. Although this figure represents an all time high, it is significant that the increase over the preceding year is small in proportion to the previous rate—about 3 per cent over 1942, compared to a 13 per cent increase in 1942 over 1941. If payroll taxes are not considered, state tax revenues remain practically unchanged at the level of $3,900,000,000. Payroll and income tax revenues have kept up and even accelerated their powerful upward trend, noted in previous years; corporation income tax revenues especially increased by more than 33 per cent from 1942 to 1943, the largest single gain of any revenue source. However, excise tax revenues as a whole have declined somewhat below the level of the preceding year from $2,219,000,000 to $2,137,000,000. This decline is due exclusively to the sharp drop in motor fuel tax revenues from $942,000,000 to $760,000,000, a decrease of almost 20 per cent. The continuing upward trend of sales, alcoholic beverage, tobacco, and other excise taxes was not strong enough to offset the decline of gasoline tax yields.

Month by month analysis of excise tax yields during 1943 shows this trend even more clearly. Motor fuel taxes fell sharply in January, 1943, following the imposition of nationwide rationing on Dec. 1, 1942. Average declines of approximately 35 per cent were registered for the first three months of 1943, with increased revenues in the latter part of the year, resulting in collections approximately 15 per cent below 1942 figures. The 22 per cent total decrease for the first 11 months of 1943 indicated a decline of approximately $200,000,000 in state motor fuel tax revenues in the calendar year 1943. The accelerated decline in alcoholic beverage tax revenues, although smaller in magnitude, may also be expected to stay with the states until the end of the war.

The continued high level of retail sales, upon which the revenue of general sales taxes is based, puzzled economists throughout 1943. Following declines in the early months of the year, from the high levels of 1942, sales tax revenues remained quite stable, thus topping the declining revenues of the latter part of 1942. The net result for the first 11 months of 1943 shows almost no change from the preceding year. The cyclical change from month to month in sales tax revenues is the result of bi-monthly and quarterly collections of the tax in some of the states with large revenues.

Tobacco taxes alone of the major excises have continued a steady rise from pre-war years. Although this increase is irregular from month to month and not equally distributed among the states, tobacco tax revenues may be expected to remain at a high level for the duration of the war and even to increase within the limitation of the tobacco supply available for civilian consumption.

TABLE I

STATE TAX COLLECTIONS IN 1943, BY TYPE OF TAX, WITH CORRESPONDING COLLECTIONS IN 1942 *

	Amount Collected (in millions)		Per Cent Change 1942 to 1943	Per Cent Distribution of Collection by Type of Tax, 1943
	1943	1942		
Total collections:				
Including unemployment compensation	$5,099	$4,975	+2.5	100.0
Excluding unemployment compensation	3,906	3,899	+.2	76.6
Sales and gross receipts taxes	2,137	2,219	−3.7	41.9
General sales, use, or gross receipts taxes	665	633	+5.1	13.0
Motor Vehicle fuels	760	942	−19.3	14.9
Alcoholic beverages	285	256	+11.3	5.6
Tobacco products	140	131	+6.9	2.7
Insurance companies	123	113	+8.8	2.4
Public utilities	120	99	+21.2	2.4
Other	44	45	−2.2	.9
License and privilege taxes	647	686	−5.7	12.7
Motor vehicle and operator licenses	385	431	−10.7	7.6
Corporations in general	106	88	+20.5	2.1
Alcoholic beverages	54	56	−3.6	1.1
Hunting and fishing	22	24	−8.4	.4
Other	80	87	−8.0	1.6
Individual income taxes	310	249	+24.5	6.1
Corporation income taxes	365	274	+33.2	7.2
Property taxes	248	271	−8.5	4.9
General	160	175	−8.6	3.1
Selective	88	96	−8.3	1.7
Death and gift taxes	100	112	−10.7	2.0
Severance taxes	75	62	+21.0	1.5
Other taxes	23	25	−8.0	.5
Unemployment compensation taxes	1,193	1,076	+10.9	23.4

* *State Finances: 1943*, Bureau of the Census.

EXPENDITURES

State expenditures in 1942, the latest year for which data is available, show very little change from those of 1941. The most significant changes between those two fiscal years were the decline of nearly $60,000,000 in expenditures for highways and waterways, reflecting the beginning of the shortages of materials and labor which cut sharply into state highway programs in 1943, and the increase of more than $30,000,000 in payments for debt retirement, resulting from the generally improved financial condition of the states. Both of these changes, however, are very slight when compared with the mag-

TABLE II

COLLECTION OF MAJOR STATE EXCISES

(First Eleven Months 1942 and 1943)

In Millions of Dollars

	Motor Fuel			Tobacco			Sales			Alcoholic Beverage		
	1943	1942	% Change	1943	1942	% Change	1943	1942	% Change	1943	1942	% Change
January	55,194	83,221	−33.9	9,896	10,262	−3.6	40,326	46,711	−13.7	20,288	21,761	−6.8
February	47,858	74,025	−35.3	9,557	9,191	3.9	24,498	29,306	−16.4	18,186	19,292	−5.7
March	42,685	67,012	−36.3	11,247	9,917	13.4	89,759	94,946	−5.5	20,312	18,337	10.8
April	55,722	71,572	−22.1	11,404	10,157	12.3	29,566	30,299	−2.5	19,667	19,090	3.0
May	57,478	73,734	−22.0	11,596	10,811	7.3	47,180	45,942	2.7	18,756	18,883	−0.7
June	63,578	74,715	−14.9	12,805	11,447	11.8	73,688	73,461	0.3	18,093	19,187	−5.8
July	62,867	73,715	−14.7	14,297	11,510	24.3	42,226	41,332	2.2	20,025	21,783	−8.1
August	64,748	77,880	−16.8	14,148	11,774	20.2	37,809	31,648	19.5	19,686	26,383	−25.3
September	65,846	78,724	−16.4	13,237	11,681	13.3	92,757	89,560	3.6	20,061	24,588	−18.4
October	61,649	71,243	−13.5	12,607	12,203	3.3	40,585	31,175	30.1	19,558	27,081	−27.7
November	62,845	71,708	−12.4	15,702	10,319	52.2	46,838	50,766	−7.7	19,863	26,632	−25.4
Total	640,470	817,549	−21.7	136,496	119,272	14.4	565,232	565.146	0.01	214,495	243,017	−11.7

nitude of the sums involved, and figures on 1943 expenditures, not yet available, are certain to reveal a much greater decrease in highway expenditures and a much greater increase in payments for debt retirement.

A more striking change is seen over the ten-year period from 1932 to 1942. Total expenditures increased by 124 per cent, and total cost payments by 117 per cent. The most significant changes, both proportionately and absolutely, are the nearly 300 per cent increase in expenditures for welfare, hospitals, and corrections, and the $1,000,000,000 paid into state unemployment insurance funds in 1942 for which there is no equivalent in 1932. Next in importance is the increase of nearly two-thirds in the expenditures for schools. Payment for debt retirement, although decreasing less in absolute terms, nearly tripled in the ten-year period. It will be noted that the increases in expenditures for welfare, unemployment insurance, and schools equal approximately the total of all cost payments in 1932, a clear indication of the increasing emphasis on the service functions of the states.

TABLE III

STATE EXPENDITURES *

(in millions)

Function	1942	1932	Per Cent Change 1932–1942
Total expenditures (including debt retirement)	$5,843.9	$2,605.5	124.3
Total cost payments (excluding debt retirement)	5,415.9	2,495.5	117.0
General administrative, legislative, and judicial	173.8	144.2	20.5
Protection and United States Defense	147.3	91.4	61.2
Transportation (highways and waterways)	1,132.0	993.2	14.0
Agriculture and natural resources	130.8	82.7	58.2
Health and sanitation	58.7	40.4	45.3
Welfare, hospitals, and corrections	1,252.6	322.6	288.3
Unemployment insurance	1,076.0	......	.....
Schools	1,056.5	629.7	67.8
Libraries	3.2	2.9	10.3
Recreation	12.0	20.9	−42.6
Interest	113.5	108.5	4.6
Debt retirement	314.5	110.0	185.9
Miscellaneous	373.1	59.8	523.9

* Adapted from *State Finances: 1942*, Bureau of the Census.

FINANCIAL POSITION OF THE STATES

State finances in 1943 were probably in the best position in the history of the United States. Sharp and continuing increases in collections from all taxes except motor fuel and alcoholic beverage levies, together with enforced reduction of expenditures in many lines caused by the shortage of materials and manpower, resulted in unexpended balances which have proved embarrassing to many states whose fiscal machinery is not accommodated to this state of affairs. Large surpluses in many states have been ear-marked for post-war reserves and in many cases invested in Federal bonds, while in others, sharp tax reductions have been enacted to slow up the accumulation of surplus funds. State bonds which could be called have been paid off in many instances; in other states sinking funds have been built up to the point where the state net debt is negligible. According to the Bureau of the Census, gross long-term debt of the states declined 9 per cent between June 30, 1942 and June 30, 1943, while net general obligation debt declined in the same proportion.

TABLE IV

GROSS DEBT OF INDIVIDUAL STATES

1942–1943

(amounts in millions)

State	Gross Debt		Change: 1942–1943	
	June 30, 1943*	June 30, 1942**	Amount	Per Cent
Total	2,909.2	3,270.7	−361.5	−11.1
New York	628.9	713.7	−84.8	−11.9
California	203.0	218.4	−15.4	−7.1
Pennsylvania	197.1	290.6	−93.5	−32.2
Louisiana	177.8	184.1	−6.3	−3.4
Arkansas	148.7	154.8	−6.1	−3.9
Illinois	139.1	150.7	−11.6	−7.7
North Carolina	133.9	136.0	−2.1	−1.5
Massachusetts	101.4	111.2	−9.8	−8.8
Minnesota	98.5	105.2	−6.7	−6.4
New Jersey	96.8	109.7	−12.9	−11.8
South Carolina	86.6	88.0	−1.4	−1.6
Missouri	84.9	94.5	−9.6	−10.2
Mississippi	78.2	82.5	−4.3	−5.2
West Virginia	76.8	79.7	−2.9	−3.6
Alabama	68.2	76.7	−8.5	−11.1
Maryland	51.0	52.5	−1.5	−2.8
Michigan	31.7	51.8	−20.1	−38.8
South Dakota	28.6	32.4	−3.8	−11.7
Rhode Island	28.4	29.3	−0.9	−3.1
Oregon	27.4	31.3	−3.9	−12.5
Connecticut	26.5	30.2	−3.7	−12.3
New Mexico	26.1	27.4	−1.3	−4.7
Virginia	25.1	27.8	−2.7	−9.7
Maine	24.4	26.5	−2.1	−7.9
Georgia	22.1	26.7	−4.6	−17.2
Colorado	21.6	24.1	−2.5	−10.4
Washington	15.3	17.3	−2.0	−11.6
Kansas	14.2	15.5	−1.3	−8.3
Montana	12.9	13.2	−0.3	−2.3
Ohio	11.4	13.1	−1.7	−13.0
Kentucky	8.4	9.3	−0.9	−9.7
Vermont	5.5	6.7	−1.2	−17.9
Wisconsin	5.5	5.4	+0.1	+1.9
Delaware	5.1	5.3	−0.2	−3.8
Arizona	3.6	3.7	−0.1	−2.7
Wyoming	3.5	3.6	−0.1	−2.8
Idaho	2.2	3.6	−1.4	−38.9
Utah	1.8	2.6	−0.8	−30.8
Nebraska	1.1	1.4	−0.3	−21.4
Iowa	0.8	2.6	−1.8	−69.2
Nevada	0.6	0.7	−0.1	−14.2

* *State Finances* 1943, Volume 2, No. 2, Table 5, p. 4.
** *State Finances* 1942, Volume 2, No. 3, Table 33, p. 65.

Some difficulty is being experienced in states which depended heavily on income from taxes which are "war casualties," such as motor fuel taxes and parimutuel taxes, and in states having a multiplicity of airtight funds, in which one fund may be embarrassed by a surplus of revenues, while another is pinched by wartime contraction of certain tax receipts.

TAX LEGISLATION

State tax legislation in 1943 reflected the operation of conflicting pressures on legislators. The loss of gasoline tax revenues and the desire for post-war security resulted in the imposition of new taxes and increases in the rates of old, particularly in the excise field. On the other hand, the excellent financial position of most states and the increased bur-

TABLE V

STATE SALES AND GROSS INCOME TAXES

*Alabama	2% of gross receipts of retail sales, 5% on sale of automobiles; extends to amusements.
Arizona	2% of gross receipts of retail sales of tangible personal property; extends to other kinds of business at rate of 0.25%–2%.
Arkansas	2% of gross receipts of retail sales of tangible personal property; extends to amusements, public utilities, transmission services and printing.
*California	2½% of gross receipts of retail sales of tangible personal property.
*Colorado	2% of gross receipts of retail sales of tangible personal property; extends to public utilities and to meals.
Illinois	2% of gross receipts from retail sales of tangible personal property; 3% on gross receipts of public utilities.
Indiana	0.25% of gross income from wholesale sales; .5% of gross income from retail sales; 0.25% of income from display advertising; 1% of income from other sources.
*Iowa	2% of gross receipts from retail sales of tangible personal property; extends to amusements and public utilities.
*Kansas	2% of gross receipts from retail sales of tangible personal property; extends to public utilities, amusements, meals and drinks.
*Louisiana	1% of gross receipts of retail sales of tangible personal property.
*Michigan	3% of gross receipts of retailers; extends to public utilities.
*Mississippi	2% of gross receipts of retailers; 0.125% of gross receipts of wholesalers; extends to other kinds of business at rate of 0.25%–2.5%.
Missouri	2% of gross receipts of retail sales of tangible personal property; extends to amusements, public utilities, charges for rooms, meals, and drinks.
*New Mexico	2% of gross receipts of retailers; 0.125% of gross receipts of wholesalers; extends to other kinds of business at 0.25%–1%.
*North Carolina	3% of gross receipts of retailers; 0.05% of gross receipts of wholesalers.
*North Dakota	2% of gross receipts of retail sales of tangible personal property; extends to public utilities and amusements.
*Ohio	3% of gross receipts of retail sales of tangible personal property.
*Oklahoma	2% of gross receipts of retail sales of tangible personal property; extends to public utilities, amusements, and other kinds of business.
*South Dakota	2% of gross receipts of retail sales of tangible personal property; extends to public utilities and amusements.
*Utah	2% of gross receipts of retail sales of tangible personal property; extends to public utilities, amusements, lodgings and meals.
*Washington[a]	3% of gross receipts of retail sales of tangible personal property. 0.25% of gross income of extractors, manufacturers, retailers, printers and publishers, and wholesalers; except wholesalers of grain, 0.01%; miscellaneous businesses and professions, 0.5%; mechanical devices involving skill, 10%, involving only chance, 20%.
West Virginia[a]	2% of gross receipts of retail sales of tangible personal property; extends to services except professional and personal services; 50¢ exemption on food purchases. 0.5% of gross receipts of retailers; 0.15% of gross receipts of wholesalers; 1–6% of gross income of other kinds of business.
*Wyoming	2% of gross receipts of retail sales of tangible personal property; extends to public utilities, amusements, lodging and meals.

[a] Washington and West Virginia have both a retail sales and gross receipts tax.
* Complementary use tax.

den of Federal taxation have resulted in rate reductions and repeals, especially in the income tax field.

Legislation for the benefit of members of the armed services were enacted by most of the states during the legislative sessions of 1942 and 1943. Most frequent and most important among state measures granting tax concessions to service personnel are enactments in the income tax, property tax, and licensing fields. Many state legislatures passed a series of measures granting various forms of relief. A state may, for instance, exempt soldiers' pay and allowances from state income taxes and extend the filing of income tax returns until six months after the war. At the same time, property tax exemptions will be granted to service men, and laws enacted under which various licenses, privileges, and permits, such as professional and business licenses, drivers' licenses and motor vehicle permits are extended without charge or declared renewable without fee within a certain period of time after the discharge of service men or after the end of hostilities. Several states granted poll tax exemptions for service men, extending to them the right to vote without requiring payment of the poll tax.

GENERAL SALES, GROSS RECEIPTS, AND USE TAXES

In 1943, there were no additions or deletions in the list of 23 states levying general sales or equivalent gross receipts taxes. All except six of the states levying sales or gross receipts taxes have compensating use taxes, levied on the storage or consumption of goods imported from another state, and therefore not subject to the sales tax. California reduced the rate of sales and use taxes from 3 per cent to 2½ per cent for the period from July 1, 1943, to June 30, 1945. An amendment of major importance is that in West Virginia exempting the first 50 cents on every food purchase.

GASOLINE TAXES

All the states and the District of Columbia levy taxes on gasoline. In 1943, Indiana and Missouri enacted new laws, but without significant changes in coverage or rates. The most important development was in taxation of special fuels, especially Diesel fuels and liquefied petroleum gases not commonly taxed as gasoline. New laws taxing these products at the same rate as gasoline were passed in Colorado, Connecticut, Indiana, North Dakota, and Oregon. Texas reduced the Diesel fuel tax rate from 8 cents to 6 cents per gallon, while maintaining a 4-cent rate for gasoline.

TABLE VI

STATE GASOLINE TAX RATES

State	Cents per Gallon	State	Cents per Gallon	State	Cents per Gallon
Alabama	6	Maine	4	Oklahoma	5.5
Arizona	5	Maryland	4	Oregon	5
Arkansas	6.5	Massachusetts	3	Pennsylvania	4
California	3	Michigan	3	Rhode Island	3
Colorado	4	Minnesota	4	South Carolina	6
Connecticut	3	Mississippi	6	South Dakota	4
Delaware	4	Missouri	2	Tennessee	7
District of Columbia	3	Montana	5	Texas	4
Florida	7	Nebraska	5	Utah	4
Georgia	6	Nevada	4	Vermont	4
Idaho	5.1	New Hampshire	4	Virginia	5
Illinois	3	New Jersey	3	Washington	5
Indiana	4	New Mexico	5	West Virginia	5
Iowa	3	New York	4	Wisconsin	4
Kansas	3	North Carolina	6	Wyoming	4
Kentucky	5	North Dakota	4		
Louisiana	7	Ohio	4		

TOBACCO TAXES

Delaware, Florida, and New Mexico enacted new tobacco taxes in 1943, bringing the number of states taxing tobacco products to 31. Delaware and Florida taxed only cigarettes, while the New Mexico law also included cigars and small cigars. Five states extended their present cigarette tax laws, with Wisconsin providing that the revenue from the tax shall be used for rehabilitation of Wisconsin war veterans and post-war public works projects. A Texas law now being litigated provides that tax-free cigarettes may be sold only to persons in the armed forces for their exclusive use. Its purpose is to counteract the considerable revenue loss resulting from bootlegging tax-free cigarettes from Army camps to civilians.

ALCOHOLIC BEVERAGE TAXES

Except for three prohibition states —Mississippi, Nebraska, and Oklahoma—all the states derive revenues from alcoholic beverages. In 28 states

TABLE VII

STATE TOBACCO TAX RATES

State	Cigarettes	Cigars	Other Tobacco Products
Alabama	3¢ per pack of 10 to 20 cigarettes	$1 to $13.50 per 1,000, small cigars, 1¢ for each 10 cigars	Smoking tobacco, 1¢ for each 5¢ or fraction thereof of retail price; chewing tobacco and snuff, ½¢ on each 5¢ or fraction thereof of retail price.
Arizona	2¢ on each 20	5¢ cigars, 1¢ each 3; over 5¢, 1¢ each; small cigars, 2¢ each 20	Tobacco and snuff; 1¢ per ounce; cavendish, plug or twist, ¼¢ per ounce.
Arkansas	$2.50 per 1,000		
Connecticut	1 mill each		
Delaware	1¢ per 10		
Florida	1½ mills each;* 2 cents per package of 10;* 3¢ per package of 20		
Georgia	1½ mills each*	$1 to $13.50 per 1,000; small cigars, 1¢ per 10	
Illinois	1 mill each		
Iowa	1 mill each*		Cigarette papers; 1½¢ per 50; cigarette tubes, 1¢ per 50
Kansas	2¢ per 20		
Kentucky	1¢ per 10¢ of retail selling price		
Louisiana	2½ mills each	$3 to $27 per 1,000; small cigars, .75 per 1,000	Smoking tobacco, 1¢ per 5¢ of retail price up to 10¢; over 10¢ retail price, 1⅓¢ per 5¢ of retail price.
Maine	1 mill each		
Massachusetts	1 mill each		
Mississippi	1/5 of 1¢ each	1¢ for each 5¢ of retail selling price	Smoking tobacco, 1¢ for each 5¢ of retail selling price
New Hampshire	15% of retail price	15% of retail price	15% of retail price
New Mexico	1¢ per package of 10; 2¢ per package of 20	1¢ on each cigar retailing for more than 6¢; small cigars: 2¢ on each 20	
New York	1¢ for each 10		
North Dakota	1½ mills each*		Snuff, 2¢ per 1¼ ounce; cigarette papers, ½¢ per 50
Ohio	1¢ per 10		
Oklahoma	2½¢ per 10	$5 to $10 per 1,000; small cigars, 1¢ per 10	Smoking and chewing tobacco, 20% of list price
Pennsylvania	1¢ per 10		
Rhode Island	1 mill each		
South Carolina	1½ mills each	$3–$10 per 1,000; small cigars, 1¢ per 10	Snuff and chewing tobacco, 1¢ per 3 ounces; smoking tobacco, 1¢ per 5¢ of retail selling price
South Dakota	1½ mills each*		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50
Tennessee	1½ mills each*	$1–$13.50; small cigars, 1¢ per 10	Tobacco and snuff, 5% of retail sales price
Texas	$1.50 per 1,000*		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50
Utah	1 mill each*		
Vermont	1 mill each		
Washington	1 mill each*		Cigarette papers, ½¢ per 50; cigarette tubes, 1¢ per 50
Wisconsin	1 mill each*		

* Special rates for oversize cigarettes.

these revenues are derived from licenses and excise taxes; 17 states provide for a profitable monopoly of liquor sales by state or county stores. The most important development in 1943 was the adoption by five of the monopoly states of excise taxes in addition to the monopoly profits. Eight of the monopoly states now have such excises.

PERSONAL INCOME TAXES

The only state to enact a new income tax in 1943 was Delaware, which imposed an additional tax of 1 per cent on the gross income of each individual, with an exemption of $624 patterned after the Federal Victory tax. Personal income taxes were repealed in West Virginia and South Dakota, cutting to 27 the number of states levying progressive personal net income taxes. Three states—Ohio, New Hampshire, and Tennessee—impose flat rate taxes on income from certain intangibles; Maryland, Massachusetts, and Vermont impose differential rates on income from investments and other sources.

Many important income tax reductions took place in 1943. Oregon and Wisconsin repealed their surtaxes on individual incomes. Iowa granted a 50 per cent credit against taxes on 1942 and 1943 income, Maryland allowed a 33 1/3 per cent credit against taxes on 1942 income and 50 per cent against those on 1943 income, and Oregon provided for a 75 per cent discount against taxes on 1943 income. New York continued its 25 per cent reduction from 1942, and California reduced personal income tax rates sharply.

Seven additional states passed laws in 1943 permitting deduction of medical expenses in computing personal income taxes. Massachusetts now permits the regular dependency deduction for a disabled child over 18 years of age.

INHERITANCE, ESTATE AND GIFT TAXES

Every state except Nevada levies a tax on estates or inheritances or both. Eleven states have gift taxes supplementary to their inheritance or estate taxes. An important development in this field was the decision of the United States Supreme Court in October, 1942 in *Riggs v. Del Drago.* The Court's ruling, upholding a New York law which requires the Federal estate tax to be distributed among the beneficiaries of the estate, may prove of great importance in administration of state death taxes and will probably give rise to legislation in other states similar to that of New York. Rate reductions of inheritance and gift taxes were enacted in 1943 in Oregon, South Dakota, and Washington.

BUSINESS AND CORPORATION TAXES

General corporate income taxes, or franchise taxes measured by income, are now in force in 31 states and the District of Columbia, while Rhode Island and South Dakota have taxes covering only banks and financial institutions. North Dakota during 1943 repealed its general corporation income tax.

Significant reductions in corporate income taxes took place in four states. California granted a 15 per cent credit against the bank and corporation franchise taxes for fiscal years beginning between Jan. 1, 1944 and Jan. 1, 1946; Maryland granted a 33 1/3 per cent credit against income taxes for 1942, 1943, and 1944; Oregon reduced the corporation excise tax by 75 per cent for fiscal years beginning in 1943; and Pennsylvania reduced the rate of its corporate net income tax from 7 per cent to 4 per cent.

The question of refunding state corporation taxes already paid has been raised by the retroactive renegotiation of war contracts by Federal agencies. This problem gave rise to legislation in Wisconsin only, but it provided a serious issue between state and Federal officials. Congressional action on the matter is pending at the end of the year.

TABLE VIII

STATE PERSONAL INCOME TAXES

State	Rate	Maximum Rate Applies to Income Over	Exemptions		
			Single	Head of Family	Dependents
Alabama	1.5–5	$ 5,000	$1,500	$3,000	$300
Arizona	1–4.5	9,000	10[a]	20[a]	4[a]
Arkansas	1–5	25,000	1,500	2,500	400
California	1–6	30,000	1,000	2,500	400
Colorado	1–6[b]	10,000	1,000	2,500	400
Delaware	1–3 1% additional emergency tax on gross income	10,000	624	2,000	200
District of Columbia	1–3	20,000	1,000	2,500	400
Georgia	1–7	20,000	1,000	2,500	400[c]
Idaho	1.5–8	5,000	700	1,500	200
Iowa[d]	1–5	4,000	10[a]	20[a]	5[a]
Kansas	1–4	7,000	750	1,500	200
Kentucky	2–5	5,000	1,000	2,500	400
Louisiana	2–6	50,000	1,000	2,500	400
Maryland[a]	2% on ordinary income 5% on investment income		1,000	2,000	400
Massachusetts	6% on interest; 1.5% on annuities & earned income; 3% on capital gains; plus 10% of tax.		2,000	2,500	250[f]
Minnesota	1–10	20,000	10[a]	30[a]	5[a]
Mississippi	1½–7	25,000	1,000	2,500	400
Missouri	1–4	9,000	1,000	2,000	200
Montana	1–4	6,000	1,000	2,000	300
New Hampshire	Average rate on real estate applies to income from intangibles		200	200	...
New Mexico	1–4	100,000	1,500		
New York	3–7	9,000	1,000		
North Carolina	3–7	10,000	1,000		
North Dakota	1–15	15,000	500		
Ohio	5% on income from intangibles		No exemption	....	...
Oklahoma	1–9	8,000	850	1,700	300
Oregon	2–7[g]	4,000	800	1,500	300
South Carolina	2–5[h]	6,000	1,000	1,800	200
Tennessee	4% on dividends from corporations, 75 per cent of whose property is taxable in the state; 6% on other dividends and interest		No exemption	....	...
Utah	1–5	4,000	600	1,200	300
Vermont	4% on interest and dividends, 2% on other income[i]		1,000	2,000	250
Virginia	1.5–3	5,000	1,000	2,000	200
Wisconsin	1–7	12,000	8[a]	17.50[a]	4[a]

[a] Deduction from tax.

[b] Plus 2% surtax on resident's income from dividends, royalties and interest.

[c] Denied deduction for minors having income exceeding $300 from a trust.

[d] In case of dependent father, mother, or grandparent taxpayer may substitute for the $5 deduction from the tax a deduction of $300 in computing net income. 50% credit allowed for taxes payable in 1943 and 1944; 10% flat deduction to small taxpayers discontinued.

[e] 2½% of allowable deductions and personal exemptions are deducted from gross tax; 50% credit allowed for taxes payable on 1943 income.

[f] Exemptions apply against earned income only. In case of income derived from various intangibles there shall be exempt $1,000 "received by a person whose total income from all sources does not exceed $1,000 during the year; but said exemption shall not be given to any married person if the combined income of both husband and wife from all sources exceeds $1,500."

[g] 75% discount allowed against taxes payable on 1943 income.

[h] Plus surtax on interest and dividends of 3% on income between $500 and $800, 4% on income between $800 and $12,000, 5% on income over $12,000. Exemption for surtax only is $500.

[i] If income is derived wholly from interest and dividends, personal exemptions shall be $400 for single persons and $800 for married persons except when entire net income exceeds $1,500 for single persons and $3,000 for married persons.

TABLE VIII (a)

ESTATE TAXES

State	Rate	Exemption
Alabama	4/5–16	$100,000
Arizona	4/5–16	100,000
Colorado	4/5–16	100,000; tax levied only if estate exceeds $250,000
Florida	4/5–16	100,000
Georgia	4/5–16	100,000
Mississippi	4/5–16	50,000
New York	1–20	20,000 to husband and wife, 2,000 to ancestors and descendants 5,000 to minor descendants
North Dakota	2–23	20,000 to husband and wife 2,000 to ancestors and descendants 2,000–5,000 to minor descendants
Oklahoma	1–10	15,000
Oregon	1–15	10,000
Rhode Island	1	10,000
Utah	3–10	10,000

TABLE IX

STATE TAXES ON THE NET INCOME OF CORPORATIONS

State	Rate in %	State	Rate in %	State	Rate in %
Alabama	3[a]	Maryland	1½[f]	New York	6[j]
Arizona	1–5	Massachusetts	2½[g]	North Carolina	6
Arkansas	1–5	Minnesota	6[h]	North Dakota	3–6
California	4[b]	Mississippi	3–8	Oklahoma	6
Colorado	2	Missouri	2	Oregon	2[k]
Connecticut	2[c]	Montana	3[i]	Pennsylvania	4
District of Columbia	5	New Hampshire	Average property tax rate on intangible income	South Carolina	4½[l]
Georgia	5½[d]			Tennessee	3¾[m]
Idaho	1½–8			Utah	3[n]
Iowa	2			Vermont	2
Kansas	2			Virginia	3
Kentucky	4			Wisconsin	2–6[o]
Louisiana	6[e]	New Mexico	2		

[a] Exemption of $1,000.

[b] Minimum tax of $25. 15% credit allowed against bank and corporation franchise taxes for 1944.

[c] $10 minimum; tax is not to be less than one mill on sum of interest bearing debt, capital stock, surplus, undivided profits, and reserves, less deficit and stocks and securities held.

[d] Tax is not to be less than 2 per cent of entire net income plus compensations to officers and to stockholders owning in excess of 5 per cent of the stock after deducting $10,000 and deficit if any.

[e] Exemption of $3,000.

[f] 33⅓% credit allowed for 1942, 1943, 1944 after computation.

[g] Minimum is not to be less than 1/20 of 1 per cent on capital stock. Additional tax of 10% of tax computed, extended through 1946.

[h] Exemption of $1,000.

[i] Minimum tax of $5. Corporations ceasing to do business in state pay 3% on last year's net income.

[j] Minimum tax of $25 or one mill per $1 of capital stock.

[k] Minimum tax of $10.

[l] Minimum tax of 3 per cent of net income plus salaries and compensation paid to officers and to any stockholder owning in excess of 5 per cent of capital stock after deducting $6,000 and any deficit reported for the year.

[m] Or tax on capital stock, whichever is greater.

[n] Minimum tax of $10, tax is not to be less than 1/20 of 1 per cent of value of tangible property.

[o] Plus certain surtaxes.

BANK TAXES

Arizona became the seventeenth state taxing banks on an income basis, with passage of a 5 per cent net income tax effective Jan. 1, 1944. Rhode Island raised its bank tax rate from 3 to 4 per cent, while California and Oregon extended 15 and 75 per cent credits, respectively, as a part of their general programs of tax reduction.

TABLE X

STATE TAXES ON THE NET INCOME OF BANKS

State	Rate %
Alabama	6
Arizona	5
California[a]	4–8
Colorado	6
Connecticut	2
Idaho	1, 5–8
Massachusetts	6
Minnesota	8
New York[b]	4½
North Dakota	4
Oklahoma	1–6
Oregon	2
Rhode Island	4
South Carolina	4½
South Dakota	3
Utah	3
Wisconsin[c]	2–6 and surtax

[a] Less 15% credit for 1944.
[b] Does not apply to savings banks.
[c] Does not apply to mutual savings banks.

OTHER TAXES

Massachusetts changed the insurance tax base from reserves to premiums, enacting a 2 per cent tax on all new or renewal premiums. Minnesota discontinued the tax on money and credits for 1943 and 1944, and Pennsylvania failed to extend its personal property tax. North Carolina imposed a 3 per cent tax on the gross earnings of companies operating freight car lines; Oklahoma and Oregon enacted 2 per cent gross receipts taxes on electrical cooperatives; and Wisconsin levied an excise tax on natural gas. Tennessee now taxes at 2 per cent the receipts of street car and motor coach companies. North Dakota taxes the gross receipts of pin ball machines at 2 per cent under the sales tax law.

TABLE XI

STATE TAXES ON CHAIN STORES

State	Maximum Tax	Applicable to Each Store
Alabama	$112.50	20
Colorado	300	24
Delaware	$10 plus 10¢ for each $100 of aggregate cost value of goods in excess of $5,000.	
Florida	400	15
Georgia	200	40
Idaho	500	19
Indiana	150	20
Iowa	155	50
Kentucky	200	250
Louisiana	550	500
Maryland	150	20
Michigan	250	25
Mississippi	300	250
Montana	200	4
North Carolina	250	200
South Carolina	150	30
South Dakota	150	50
Tennessee	$3 for each 100 square feet of floor space	1
Texas	750	50
West Virginia	250	75

ADMINISTRATION

Integration of tax administration was accomplished in 1943 in Illinois and South Dakota. The Illinois Tax Commission was abolished and its functions, together with the revenue functions of the Department of Finance, were transferred to a newly created Department of Revenue. In South Dakota a new Division of Licensing was created to administer all important state excises except the tobacco tax. Further integration was accomplished by appointing as Director of Licensing, the Director of Taxation who administers the other important state taxes through the Division of Taxation. Administration of certain taxes was transferred from other agencies to the Department of Revenue in Arkansas, Michigan, Pennsylvania, and Louisiana, and to the Department of Taxation in Wisconsin. Louisiana enacted Uniform Tax Procedure and Penalty Acts and reconstituted its Board of Tax Appeals. In Georgia the Board of Tax Appeals was abolished and its functions transferred to the Commissioner of Revenue. New York, acting contrary to the trend toward uniform fiscal years, changed the date of its fiscal year from July 1 to April 1.

MUNICIPAL FINANCE

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GENERAL

An examination of the financial condition of municipalities for the year 1943 once again shows definite signs of a continuation of the improvement which began in 1934. This further improvement is indicated especially by a decline in tax delinquencies, and a decrease in the number of defaults. The decline in tax delinquencies and the increase in back tax collections resulted from the general improvement in business conditions and the reduction in the number of defaults is largely attributable to the improvement in tax collections.

EXPENDITURES

The most recent year for which the comprehensive statistics of the Bureau of the Census in final report form are available is for 1940. Unfortunately, the figures for 1932 to 1940 are limited to cities having a population of over 100,000. By executive order of June 10, 1933, the annual collection and compilation of financial statistics were limited to cities of over 100,000 population.

MUNICIPAL EXPENDITURES

(000 omitted)

Operation and Maintenance, by Major Functions

Year	Total	General Government	Public Safety	Health and Sanitation	Highways
1940[1]	$2,193,915	$168,712	$350,462	$139,498	$108,537
1939[1]	2,195,742	166,695	345,525	138,381	116,442
1938[1]	2,167,459	163,089	346,168	136,956	111,979
1937[1]	2,025,052	159,557	330,107	127,634	106,242
1936[1]	1,838,803	150,213	317,154	141,207	108,910
1935[1]	1,797,798	139,144	307,733	135,892	111,358
1934[1]	1,744,975	135,766	298,758	134,296	111,306
1932[1]	1,806,517	149,909	328,797	160,010	127,670
1929	1,730,288	140,521	339,816	174,858	147,375
1927	1,562,615	136,848	315,362	160,259	137,892
1924	1,287,484	111,856	259,275	130,388	109,807
1922	1,155,691	105,174	234,199	115,488	98,763
1919	697,319	72,585	146,763	75,847	65,003
1915	546,568	62,793	120,696	55,758	60,615
1911	452,899	53,766	106,120	45,691	52,214
1907	367,367	42,703	87,885	36,899	42,718
1903	278,173	30,842	71,020	25,807	34,208

[1] Statistics for 1932 to 1940 are for cities having a population in 1930 over 100,000. All other data are for cities over 30,000. Because of some changes in the basis of classification, the figures for 1937, 1938, 1939, and 1940 are not strictly comparable with those for earlier years. Beginning with 1937, the financial statistics of public-service enterprises were reported separately from those of general government.

MUNICIPAL EXPENDITURES—Continued

Year	Charities, Hospitals, and Corrections	Schools	Libraries	Recreation	Miscellaneous
1940	500,003	631,432	25,813	65,679	203,779
1939	513,020	630,203	25,528	66,205	193,741
1938	508,134	625,032	25,519	64,946	185,637
1937	451,472	596,129	24,101	58,132	171,678
1936	366,466	571,922	21,119	52,303	109,504
1935	337,990	545,718	20,840	47,943	151,180
1934	345,214	526,864	20,271	48,306	124,194
1932	234,419	629,353	.....[1]	63,117	113,242
1929	116,147	622,587	23,029	61,863	94,091
1927	99,806	560,668	20,167	53,839	77,731
1924	79,239	475,725	15,782	41,819	63,590
1922	76,627	422,843	14,326	38,703	49,603
1919	53,262	216,701	9,079	24,204	33,870
1915	38,285	162,332	7,134	20,416	18,535
1911	30,647	127,604	5,939	17,114	13,801
1907	24,408	102,395	4,989	11,794	13,572
1903	18,280	80,853	4,067	7,457	5,634

[1] Expenditures for libraries and schools combined in 1932.

While some of the absolute expenditures just noted may appear large, yet too great significance should not be attached to them. The size of an expenditure becomes intelligible in terms of service when one discovers the number among whom it is divided. The per capita expenditures of cities, both as a whole and for particular items have varied greatly from time to time, but the general tendency has been to increase. The following table shows the change in per capita expenditures for selected years:

PER CAPITA EXPENDITURES

Year	Total	General Govern-ment	Public Safety	Health and Sani-tation	High-ways	Char-ities, Hos-pitals, and Correc-tions	Educa-tion, Schools*	Librar-ies**	Recrea-tion**	Miscel-laneous*
1940	$57.75	$4.44	$9.22	$3.67	$2.86	$13.16	$16.62	$.68	$1.73	$5.37
1939	57.77	4.39	9.10	3.64	3.06	13.49	16.58	.67	1.74	5.09
1938	57.36	4.32	9.16	3.62	2.96	13.45	16.54	.68	1.72	4.92
1937	53.75	4.24	8.77	3.38	2.82	11.98	15.82	.64	1.54	4.56
1936	48.83	3.99	8.43	3.75	2.89	9.73	15.19	.56	1.39	2.91
1935	47.78	3.70	8.18	3.61	2.76	8.98	15.05	...	1.27	4.02
1934	46.43	3.61	7.95	3.57	2.97	9.18	14.56	...	1.29	3.30
1932	47.87	3.97	8.71	4.24	3.38	6.21	16.68	...	1.67	3.00
1929	43.45	3.66	8.46	4.33	3.70	2.78	16.14	.59	1.55	2.25
1927	40.77	3.46	8.13	4.13	3.60	2.49	15.08	.53	1.40	1.94
1924	35.61	3.01	7.10	3.55	3.07	2.08	13.52	.44	1.15	1.67
1922	33.15	2.94	6.66	3.25	2.87	2.08	12.50	.41	1.09	1.34
1919	21.63	2.22	4.53	2.34	2.04	1.59	6.88	.28	.74	1.01
1915	18.45	2.10	4.06	1.86	2.06	1.26	5.58	.24	.68	.61
1911	17.62	2.08	4.12	1.77	2.04	1.17	5.04	.23	.65	.53
1907	15.95	1.86	3.80	1.59	1.91	1.05	4.42	.21	.51	.59
1903	13.19	1.46	3.35	1.21	1.64	.86	3.86	.10	.35	.27

* Payment for pensions are included in column "Miscellaneous" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with expenses of police, fire, and school departments.

** Payments for expenses of art galleries and museums are included in column "Recreation" for the years 1911 to 1928 inclusive; for the years 1903 to 1909 inclusive, they are included with the expenses of libraries; expenditures for libraries and schools are combined for the years 1932 to 1935.

IMPORTANCE OF DIFFERENT MUNICIPAL EXPENDITURES

There is a wide difference in the importance attached to the various functions performed by municipalities. While over a period of years there has been some change in the relative importance of some of the items, it is interesting to note that expenditures for education have always been larger than any other, and that the relative importance of this item up to 1932 tended to increase with the years. Protection and highways have commanded a smaller percentage of the expenditures than formerly. The most significant development in recent years, it will be noted, is the increase in expenditures for charities, hospitals, and corrections. The following table shows the relative importance of the different services over a period of years:

PERCENTAGE OF EXPENDITURES FOR DIFFERENT FUNCTIONS

Year	General Government	Public Safety	Health and Sanitation	Highways	Charities, Hospitals, and Corrections	Education, Schools*	Libraries*	Recreation	Miscellaneous
1940	7.7	16.0	6.3	4.9	22.7	28.8	1.2	3.0	9.4
1939	7.6	15.7	6.3	5.3	23.3	28.7	1.2	3.0	8.7
1938	7.5	16.0	6.3	5.2	23.4	28.8	1.2	3.0	8.5
1937	7.9	16.3	6.3	5.2	22.3	29.4	1.2	2.9	8.5
1936	8.2	17.2	7.7	5.9	19.9	31.1	1.1	2.8	6.0
1935	7.7	17.1	7.5	6.2	18.8	31.6	...	2.7	8.4
1934	7.8	17.1	7.7	6.4	19.8	31.4	...	2.8	7.1
1932	8.3	18.2	8.9	7.1	13.0	34.8	...	3.5	6.3
1929	8.4	19.5	10.0	8.5	6.4	37.2	1.4	3.6	5.2
1927	8.5	20.0	10.1	8.8	6.6	37.0	1.3	3.4	4.8
1924	8.5	19.9	10.0	8.6	5.9	38.0	1.2	3.2	4.7
1922	8.9	20.1	9.8	8.7	6.3	37.7	1.2	3.3	4.0
1919	10.2	21.0	10.8	9.4	7.3	31.8	1.3	3.4	4.7
1915	11.4	22.0	10.1	11.2	6.8	30.2	1.3	3.7	3.3
1911	11.8	23.4	10.1	11.6	6.6	28.6	1.3	3.7	3.0
1907	11.7	23.8	9.9	12.0	6.6	27.7	1.3	3.2	3.6
1903	11.1	25.3	9.2	12.4	6.5	29.3	1.5	2.7	2.1

* Percentages for schools and libraries combined for the years 1932 to 1935.

The expenditures described are designated as "cost payments" by the Census Bureau. In addition to these are a number of other expenditures, the most important of which are for interest, outlays, and payments for operation and maintenance of public-service enterprises. The interest payments are for the funded and floating debt, special assessment loans, and other minor types of borrowing. In 1940 the total interest payment was $149,361,000; the corresponding figure for 1939 was $198,619,000.

Expenditures for outlays comprise the amounts paid for the acquisition and construction of more or less permanent improvements, including payments for additions made to those previously acquired or constructed. Such payments in 1940 amounted to $280,027,000 in comparison with $388,400,000 for the preceding year.

OPERATING REVENUES AND OPERATING EXPENSES OF PUBLIC-SERVICE ENTERPRISES: 1940

(expressed in thousands)

The operating revenues and operating expenses of public-service enterprises are shown in the following table:

Type of Enterprise	Income	Payments
Water-supply	$197,963	$72,903
Electric light and power	70,011	36,082
Transit	57,149	41,473
Housing	5,611	3,174
Ports, harbors, docks and wharves	14,753	6,671
Airports	1,918	2,984
All other	21,415	15,829
Total	$368,810	$179,116

The water-supply system is the most important public service enterprise operated by American cities. Of the 92 municipalities for which the census data are available, 85 had water-supply systems in 1940. Because of the numerous factors involved, no attempt can be made, from the data presented, to appraise the success of public-service enterprises.

SOURCES OF REVENUE

Property Taxes.—The revenue of cities arises from a number of sources. In most cities more than 90 per cent of the funds which go into the general revenue fund come from the general property tax. This is a tax levied against real and personal property. In addition to the general property tax the Census Bureau designates certain taxes as special property taxes. Such include taxes upon the capital stock of corporations, upon savings banks and other financial institutions, and upon insurance companies. Included in this, also, would be taxes levied upon mortgages at time of recording, taxes upon incomes and estates, upon investments, and a wide range of specific taxes.

Poll and Business Taxes.—In many cities, also, some form of poll tax continues to be used, although such taxes are much less important than formerly. No generalization can be made as to method of levy since this varies greatly from city to city. In addition, business and non-business license taxes make up a large group of levies upon different types of business activities, some of which, of course, are levied primarily for regulative purposes. The latter include such levies as those upon dogs, dance halls, etc. Receipts from special assessments constitute an important item, but they do not enter the general revenue fund. In some places at a particular time subventions and grants are an important source of income, while in some cities, also, the earnings from public enterprises are not unimportant. The relative importance of the major sources of revenue over a period of years is shown in the following table:

PER CAPITA TAX BURDEN

That the tax burden imposed by cities has been increasing much more rapidly than population is readily seen when one notes the change in the per capita amounts collected from different sources over a period of years.

PERCENTAGE OF RECEIPTS FROM DIFFERENT SOURCES OF REVENUE

Year	The General Property Tax	Other Taxes and Licenses	Special Assessments	Subventions and Grants, Donations and Pension Assessments	Earnings of Public Service Enterprises*	Other Revenues
1940	63.4	7.7	1.0	18.3	....	9.6
1939	64.1	7.9	1.0	18.4	....	8.6
1938	64.7	8.1	1.1	16.1	....	10.0
1937	65.2	8.0	1.2	16.4	....	9.2
1936	59.7	7.9	1.6	14.3	10.4	6.1
1935	60.2	6.8	1.7	15.6	9.5	6.2
1934	62.6	5.3	2.2	13.5	9.8	6.6
1932	66.2	4.7	3.9	8.5	9.3	7.4
1929	64.7	6.4	7.2	5.8	9.8	6.1
1927	66.1	5.7	7.7	4.9	9.6	6.2
1924	66.1	5.7	5.9	5.3	10.3	6.8
1922	66.9	5.2	4.8	5.9	9.0	8.2
1919	66.0	7.6	5.6	4.1	10.2	6.4
1915	62.4	7.8	8.5	4.2	10.0	6.9
1911	61.9	8.7	8.4	4.6	10.6	5.8
1907	59.4	10.6	8.2	4.8	11.2	5.8
1903	61.4	9.8	7.6	4.3	11.5	5.5

* Listed separately in 1937, 1938, 1939, and 1940.

PER CAPITA RECEIPTS FROM DIFFERENT SOURCES

Year	Total	The General Property Tax	Other Taxes and Licenses	Special Assessments	Subventions and Grants, Donations, and Pension Assessments	Earnings of Public Service Enterprises*	Other Revenues
1940	$74.15	$47.04	$5.71	$ .71	$13.52	....	$7.17
1939	73.93	47.38	5.80	.73	13.58	....	6.44
1938	74.28	48.02	5.97	.82	11.99	....	7.48
1937	71.89	46.91	5.76	.89	12.77	....	5.56
1936	76.83	45.83	6.03	1.21	10.95	$8.03	4.78
1935	77.64	46.72	5.26	1.32	12.10	7.37	4.87
1934	72.13	45.17	3.77	1.61	9.71	7.09	4.78
1932	68.82	45.57	3.24	2.70	5.84	6.42	5.03
1929	69.63	45.07	4.43	5.01	4.02	6.82	4.28
1927	69.77	46.09	3.95	5.36	3.40	6.67	4.29
1924	58.41	38.59	3.33	3.43	3.12	6.00	3.96
1922	53.57	35.85	2.80	2.58	3.13	4.83	4.38
1919	35.26	23.29	2.68	1.98	1.43	3.61	2.27
1915	30.00	18.73	2.36	2.54	1.26	3.03	2.08
1911	28.07	17.37	2.44	2.35	1.30	2.98	1.63
1907	24.67	14.64	2.63	2.02	1.18	2.77	1.43
1903	21.14	12.98	2.06	1.60	.91	2.42	1.16

* Listed separately in 1937, 1938, 1939, and 1940.

MUNICIPAL INDEBTEDNESS

Receipts from sources of revenue may either just pay expenses, more than pay expenses, or fail to pay them. In many cases the administrators of the finances have planned for a surplus but because of a shrinkage in revenue have had to resort to borrowing.

In the calculations of the Census Bureau, municipal indebtedness is divided into two distinct groups—long-term obligations and short-term loans. The former includes all obligations which have a number of years to run and for the redemption of which no assets other than a sinking fund or earnings of public-service enterprises have been specifically designated. The latter, on the other hand, includes such indebtedness as is evidenced by warrants, accounts payable, and other short-term obligations. The gross indebtedness is, of course, the total amount, while the net indebtedness is derived by subtracting from this the value of the assets in the sinking fund. The following table shows the net indebtedness for certain years. The statistics that are available for 1931 to 1940 give only net indebtedness.

MUNICIPAL INDEBTEDNESS
(000 omitted)

Year	Net Debt[1]	
	Amount	Per Capita
1940	$6,746,826	$177.60
1939	6,479,707	171.47
1938	6,470,850	171.23
1937	6,401,987	169.93
1936	6,331,516	168.13
1935	6,397,603	170.03
1934	6,380,478	169.76
1932	6,289,078	166.66
1930	5,967,563	153.02
1929	5,529,835	144.33
1927	4,943,507	134.27
1924	3,481,980	110.09
1922	3,280,645	97.57
1919	2,541,172	81.18
1915	2,245,906	77.86
1911	1,808,828	67.52
1907	1,808,878	56.04
1903	933,004	44.71

[1] Net debt equals long-term obligations, exclusive of special assessment debt, less sinking fund assets.

DEVELOPMENTS IN THE BOND MARKET

The aggregate disposals of long-term obligations by states and municipalities for the first ten months of each year for a series of years are shown in the accompanying table. Total issues for the months covered declined from $488,415,000 in 1942 to $380,990,000 in 1943.

MUNICIPAL BOND ISSUES

(000 omitted)

Year	Total First Ten Months	Year	Total First Ten Months
1943	$ 380,990	1927	$1,297,029
1942	488,415	1926	1,149,105
1941	823,115	1925	1,174,724
1940	954,593	1924	1,280,504
1939	956,386	1923	850,952
1938	800,606	1922	990,188
1937	769,778	1921	868,392
1936	955,500	1920	570,109
1935	973,869	1919	581,871
1934	725,660	1918	245,789
1933	392,580	1917	402,828
1932	701,938	1916	402,548
1931	1,156,129	1915	434,829
1930	1,211,857	1914	423,171
1929	1,055,135	1913	327,902
1928	1,094,074		

Source: *Commercial and Financial Chronicle.*

FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS

The table showing municipal bond issues does not include the extension grants made to municipalities for public-works projects by the Federal Emergency Administration of Public Works. This agency was created by the National Industrial Recovery Act which became effective June 16, 1933. Under title II of this act, authority was granted to the Administrator to furnish grants, not subject to repayment, for 30 per cent of the total expenditures incurred for the payment of labor and material costs on approved public-works projects. Moreover, the agency was authorized to accept 4 per cent general obligation or revenue bonds of the municipalities as security for the loan portion of the allotment. In 1934 Congress authorized the Reconstruction Finance Corporation to purchase marketable securities from the Public Works Administration and provided that moneys realized by the Public Works Administration from such sales might be used for making additional loans, but not grants, in aid of non-Federal public-works projects under title II of the N.I.R.A.

In addition to the program of public works administered under title II of the National Industrial Recovery Act, the Public Works Administration carried on a separate program pursuant to the Emergency Relief Appropriation Act of 1935. Under the latter act the amount of the grant was fixed by administrative determination at 45 per cent of the cost of the project, with a corresponding reduction in the amount to be furnished by the applicant. Provision was made under this act for the sale of bonds acquired as collateral for municipal loans either on the open market or to the Reconstruction Finance Corporation, the proceeds to be used only for the making of loans. In practice the sales have been confined to the Reconstruction Finance Corporation which, in turn, has sold the securities on the open market.

TAX DELINQUENCY

Tax delinquency is a natural phenomenon of a business depression, and a rising trend of tax delinquency inevitably cripples municipal functions and weakens municipal credit. Dun and Bradstreet has made a study of the trend of median year-end tax delinquency in 150 cities over 50,000 population for the 11-year period from 1930 to 1942. The following percentages show the median delinquency on the current tax levy at the end of each fiscal year:

1942	1939	1936	1933	1930
6.00%	9.25%	13.9%	26.35%	10.15%
1941	1938	1935	1932	
6.80%	10.7%	18.0%	19.95%	
1940	1937	1934	1931	
8.70%	11.3%	23.05%	14.60%	

These figures show a substantial gain in collections since 1933; and delinquency in 1942 was lower than it was in 1930. Only fragmentary data are available for 1943, but it is believed that little change has occurred.

DEBT DEFAULTS

The *Bond Buyer* estimated, with certain reservations, that 166 cities and towns were in default on their bonds on Dec. 1, 1943. This represents a reduction from the previous year when 276 incorporated places were in default. The following states, according to the *Bond Buyer,* had the largest number of defaults:

Florida	57	Colorado	10
Texas	30	Michigan	6
Pennsylvania	12	Oklahoma	5
North Carolina	11	New Jersey	4

It is significant to note that Florida and North Carolina, which are included in the above group, had large increases in local indebtedness between 1912 and 1932, the percentages being 2,779.01 and 1,300.8 respectively. The indebtedness of Maine during the same period increased only 73.2 per cent, while that of Massachusetts increased only 99.2 per cent. Maine had one incorporated place in default in 1941 and Massachusetts had none.

While no data are available regarding the volume of municipal bonds in default, it can reasonably be stated that the volume of such defaults declined during the past year.

DEBT ADJUSTMENT LEGISLATION

For the purpose of aiding municipalities which are in default on their obligations, various states have recently passed state receivership and debt adjustment acts. Boards or commissions have been established to supervise local indebtedness in general, to supervise the refunding of municipal bonds, and to act as receivers in event of failure to meet debt service.

A Federal Municipal Bankruptcy Act was enacted May 24, 1934. This act, which was declared unconstitutional by the Supreme Court of the United States in May, 1936, was designed to enable any taxing district, with the consent of its creditors and the approval of a Federal District Court, to adjust its debt structure. According to the *Bond Buyer,* only 27 cities, one county, one school district, 41 irrigation districts, and one road district filed petitions under the Municipal Bankruptcy Act during the two years in which the law was in effect.

On Aug. 16, 1937, President Roosevelt signed a new Municipal Bankruptcy Act, designed to replace the original measure which was declared unconstitutional. The present law is similar in its provisions to the invalidated law. It provides a procedure whereby insolvent taxing agencies, such as local drainage, levee, irrigation, road, and sewer districts, as well as towns, boroughs, and municipalities, may effect compositions with their creditors. These compositions would be approvable only when the districts or agencies filed voluntary proceedings in bankruptcy accompanied by plans approved by 51 per cent of all the creditors of the district or town. The plan of composition can not be confirmed unless accepted in writing by creditors holding at least 66 2/3 per cent of the aggregate amount of the indebtedness of the petitioning district or taxing agency, unless the judge is satisfied that the taxing district was authorized by law to carry out the plan and there had been a finding by the Court that the plan was fair, equitable, and for the best interests of the creditors. According to the *Bond Buyer,* 264 municipalities had filed petitions under the 1937 Federal Municipal Bankruptcy Act on Dec. 1, 1943.

FEDERAL INCOME AND PROFITS TAXES

BY MARK CARTER MILLS

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CURRENT TAX PAYMENT ACT OF 1943

After many months of discussion, both in and out of Congress, the Current Tax Payment Act of 1943 was signed by the President on June 10, 1943 and went into effect on July 1. There had been wide-spread approval of the principle of current or pay-as-you-go payment but much difference of opinion as to the method of putting it into effect. The problem was to devise a method of transition that would avoid the collection of two years' taxes in one. The situation was complicated by the necessity of inaugurating the new plan in the middle of the year.

The discussion centered around the scheme of current payment put forward in 1942 by Beardsley Ruml and popularly known as the "Ruml Plan." As originally proposed the Ruml Plan would have provided that all of the 1942 tax liability would have been "forgiven" and all individual taxpayers would have been fully current in their payments.

Mr. Ruml and other proponents of this method of transition argued that in the long run the Government would lose nothing by the cancellation of the 1942 taxes and that the taxpayers would be relieved of the burden involved in paying two years' taxes in one year. Although some taxpayers would have lower incomes in 1943 than they had in 1942 and thus pay lower taxes, it was held that the consequent loss of revenue would be made up over the years by taxpayers whose incomes were larger.

The Treasury Department, many members of Congress, and others, who opposed the cancellation of the taxes on 1942 incomes pointed out that in order to finance the war and to avoid the danger of inflation it was important to collect as much as possible by taxation. Money already saved to pay 1942 taxes, might, they said, be used to bid up prices of the dwindling supply of consumers' goods and thus contribute to inflation. Their chief objection to the Ruml Plan, however, was that because of the progressive rate structure of the income tax the chief beneficiaries of tax forgiveness would be the wealthy taxpayers. If an equivalent amount of revenue were raised by current withholding taxes much of it would necessarily come from taxpayers whose incomes were between $1,500 and $10,000.

The law as passed involved a compromise. The entire tax liability on 1942 income was cancelled if it amounted to $50 or less. If over $50 but less than $66.67, the amount of $50 was cancelled and the payment of the remainder carried over as in the case of larger incomes. On incomes on which the tax was more than $66.67, 75 per cent of the tax on 1942 incomes was forgiven (or 75 per cent of tax on the 1943 income, if that were the smaller). Two years were allowed in which to pay the remaining 25 per cent.

When the law went into effect the Treasury estimated that 17,000,000 of the 44,000,000 taxpayers liable for income taxes in 1943 would be made completely current in their payments. Of these, 7,000,000 had no taxable income in 1942. Five million others had less than $50 tax in either 1942 or 1943 and the remaining 5,000,000 were inductees whose service exemption made the tax on their 1942 incomes less than $50.

PAYROLL WITHHOLDING

In addition to the fundamental change in the Federal tax system involving the payment of taxes out of current income, the law provided a new method of income tax collection at the source based upon withholding by employers. In general, the method was similar to that used to collect Social Security taxes but was more intricate in its operation. In brief, employers are required to withhold 20 per cent of wages and salaries above certain exemptions. This represents the normal tax, the surtax at the first bracket rate, and the net Victory tax. The exemptions are as follows: $312 for each dependent, plus $624 for a single person; or $1,248 for a married person or head of a family. The law requires that the tax must be withheld on each payday and remitted by the employer to the Collector of Internal Revenue quarterly. Wage-bracket withholding tables were included in the law which might be used by the employer as an alternative to an exact computation of the individual's tax liability.

A feature not found in previous income tax laws is the provision under which the Secretary of the Treasury may authorize certain banks and trust companies to serve as depositaries and financial agents of the Government to accept the deposit of the withheld taxes as they are collected by the employer. In this way the employer does not run the risk involved in holding the whithheld funds until the end of the quarterly period, and the Government is able to use them more promptly.

Individual taxpayers who are required to file returns are expected at the same time that they file returns for the preceding taxable year, to declare their estimated total tax liability for the current year, the amount which it is estimated may be withheld at the source, and the difference between these amounts. This difference constitutes the estimated tax for the current year and may be paid in quarterly instalments. When original estimates of the tax liability prove inaccurate an opportunity is given the taxpayer to file an amended declaration.

Where a taxpayer underestimates his gross tax liability for the year a penalty is added. This consists of 6 per cent of the difference between the actual gross tax liability and the estimated tax plus withholding credits or the amount by which 80 per cent of his gross tax liability exceeds the estimated tax plus withholding credits, whichever is the lesser. Farmers who exercise the option to file year-end declarations are allowed a tolerance limit of 66 2/3 per cent instead of 80. Special recognition of the nature of farming is also given by permitting farmers the option of filing a declaration and paying the tax for the current year on or before Dec. 15 of each year. A farmer is defined as one who derives at least 80 per cent of his gross income from farming.

Special and highly technical antiwindfall provisions apply to persons whose incomes were very substantially higher in the war years of 1942 and 1943 than they were in pre-war years. The effect of these provisions is to lessen the amount of forgiveness.

GROUPS EXEMPTED FROM THE WITHHOLDING PROVISIONS

The duty to withhold income and Victory taxes, as in the case of the Social Security taxes, is based upon the existence of an employer-employee relationship. However, even where this relationship exists certain occupations are exempted from the withholding requirement. The principal groups to which this applies are (1) agricultural laborers, (2) domestic servants in private homes, college clubs or fraternities, and (3) casual laborers not engaged in the course of the employer's trade or business. In addition, the service pay of members of the military or naval forces is excluded from the withholding provision as are also the salaries of ministers of the gospel.

CURRENT PAYMENT OF TAXES NOT COLLECTED AT SOURCE

Since the withholding device applies only to certain types of wages and salaries and to those only to the extent of the first surtax bracket it was necessary to make other changes in the income tax law in order to make the principle of current payment generally applicable. As a permanent feature of the system, therefore, this was accomplished by requiring all taxpayers whose taxes are not fully paid by withholding to file an annual return on March 15 as in the past. Those who are not required to file a return are those having a gross income of not more than $100 from sources other than wages subject to withholding and whose wages are not in excess of $2,700 if single, or $3,500 if married. As a result of this provision the Treasury estimated that, when the law was in full operation, only 14,000,000 of the 44,000,000 taxpayers of the country would be required to file declarations.

SPECIAL TREATMENT FOR MEMBERS OF THE ARMED FORCES

Miscellaneous provisions of the Current Tax Payment Law include special treatment for members of the armed forces. The chief provision of this nature is the exclusion from gross income of $1,500 per year of their service pay. This is in addition to an exemption of $250 in the case of a single person, and $300 in the case of a married person, granted to all members of the armed forces below the rank of commissioned officer by the Revenue Act of 1942. In addition, it was provided that, in the case of any member of the armed forces who dies in active service on or after Dec. 7, 1941, any income tax liability which is unpaid at the date of his death shall not be collected. In case it has been collected from his estate, it is to be refunded as an overpayment. In the transition to the current payment system, members of the armed forces were also given special consideration in respect to the manner in which any excess of 1942 over 1943 tax liability is handled in determining the amount of his 1943 taxes.

CORPORATION AND EXCESS PROFITS TAXES

In general, the changes made in the corporation taxes by the Current Tax Payment Act were much less significant than the changes in the personal income tax. The rates applied to normal-tax net income were as follows:

Up to $5,000......	15%
$5,000 to $20,000..	$750 plus 17% of amount over $5,000
$20,000 to $25,000.	$3300 plus 19% of amount over $20,000
$25,000 to $50,000.	$4250 plus 31% of amount over $25,000
Over $50,000......	24% of entire normal-tax net income.

Corporations not subject to the normal tax on corporations in general are: regulated investment companies, foreign corporations, insurance companies and certain corporations exempt from income tax entirely.

The rates applied to corporation surtax net income of corporations in general are as follows:

Up to $25,000.....	10%
Over $25,000 but not over $50,000..	$2,500 plus 22% of amount over $25,000
Over $50,000......	16% of entire surtax net income.

Corporations not subject to the surtax are those defined as nonresident foreign corporations, regulated investment companies, insurance companies, Western Hemisphere Trade Corporation, and corporations exempt from the income tax. Special methods with higher rates were provided for the taxation of corporations improperly accumulating surplus and for personal holding companies.

The basic rate applicable to "adjusted excess profits net income" was left at 90 per cent as provided by the Revenue Act of 1942.

INCOME TAX SIMPLIFICATION

The adoption of a pay-as-you-go plan of taxation based upon withholding has highlighted the need for income tax simplification. The original income tax law has been amended 17 times, each time adding to the existing law. Suggestions for simplification have centered around three major proposals: 1. The elimination of the Victory Tax as a separate levy and its incorporation in the withholding tax; 2. Making the withholding rate the effective normal rate; 3. In cases where wages and salary subject to the withholding tax constitute the only income and there is no liability for surtax, elimination of the year-end return would vastly simplify the work of many millions of taxpayers and also that of the Treasury.

In Secretary Morgenthau's statement before the Ways and Means Committee of the House on Oct. 4, 1943, he emphasized the complications arising from the differences in computing the Victory Tax and the regular income tax, particularly with respect to exemptions and permissible deductions. As a result he advocated the repeal of the Victory Tax as the first and most important single step toward tax simplification. In the interest of simplification, Secretary Morgenthau also urged the repeal of the earned income credit. A further suggestion was the application of graduated rates under the withholding tax in order to cover the complete liability of taxpayers subject to taxes beyond the first bracket.

INDIVIDUAL EXCESS PROFITS TAX REJECTED

In July the Ways and Means Committee of the House requested the Treasury to study the feasibility of an individual excess profits tax. On Aug. 17 the Treasury issued a statement why such a tax did not seem desirable. The reasons given were as follows: "1. It would reduce incentive necessary for maximum war production; 2. It would discriminate against several groups of income recipients; 3. It would be difficult to administer with adequate completeness to prevent substantial evasion; 4. It would contribute little to the control of inflation; 5. All factors considered, the same amount of revenue could be raised more readily by other measures."

ADDITIONAL TAX LEGISLATION

Immediately after the passage of the Current Tax Payment Act the Ways and Means Committee of the House and the Senate Finance Committee started work upon a new act which it was hoped could be passed before the end of the year so that it might go into effect on Jan. 1, 1944. The Treasury program was presented to the Ways and Means Committee by Secretary Morgenthau on Oct. 4. In his statement Mr. Morgenthau emphasized the danger of inflation and the necessity of drawing off by taxation what he characterized as "excess spending money." The Treasury plan called for changes which it was estimated would yield an additional $10,500,000,000 of which $6,500,000,000 would be from personal income taxes. Secretary Morgenthau recommended higher rates throughout the personal income tax structure but particularly emphasized the necessity of higher surtax rates. The Treasury recommended along with this increase in rates a provision for post-war refund of part of the taxes. Such a refund, it was said, would principally benefit the lower income groups. Higher surtax rates were also recommended for corporations but normal net income rates on corporations were unchanged and the excess profits tax was left at 90 per cent.

The tax bill approved by the Ways and Means Committee on Oct. 11 largely disregarded the Treasury proposal to combat inflation by imposition of higher taxes on incomes. The bill which was estimated to provide for the raising of $2,142,900,000 which was little more than 1/5 of the amount asked by the Treasury. The bill called principally for higher postal rates, higher excise on so-called luxuries—liquor, horse racing, amusements, furs, jewelry, lipstick, and other consumer items—and an increase in the wartime levy on corporation excess profits. It provided for little change in the individual income tax rates and made no change in the normal and surtax rates on corporation earnings. The bill retained the 20 per cent withholding rate against the taxable portions of wages and salaries by providing for the merger of the Victory Tax with the individual income levy. Special provisions were made to retain on the tax rolls the estimated 9,000,000 persons subject to the Victory Tax but not to the regular income tax. The bill also proposed to raise $616,000,000 additional revenue by raising the excess profits tax on corporations.

The report of the Senate Finance Committee was sent to the Senate on Dec. 16. The Committee rejected the House proposal to repeal the Victory tax and to substitute a special minimum levy which would require all those previously subject to the Victory tax to remain on the tax rolls. The Senate bill provided for the retention of the Victory tax in the form of a flat 3 per cent levy on all Victory tax net income in excess of $625 yearly per person whether married, single, or with or without dependents. The Senate bill also proposed the abolition of the post-war credit in connection with the Victory tax.

The Senate Committee agreed with the House on the repeal of the earned income credit provision of the personal income tax and on the disallowance of Federal excise taxes paid. The Committee report favored the exemption of the mustering-out pay of the armed forces from income taxes. Only slight changes were recommended in the corporation tax rates of the House bill. The estimate of the revenue to be raised by the Senate bill was put at $2,284,000,000. Congress adjourned for the Christmas holidays before taking final action on the revenue law.

LAND AND PROPERTY TAXES

By Robert W. Lochner
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GENERAL

Substantial revision of general property taxation, with particular reference to inclusion of a rental tax on occupiers in the real estate base, was recommended in the report of the Committee on Intergovernmental Fiscal Relations to Secretary of the Treasury Morgenthau (Senate Document No. 69, 78th Congress). A Massachusetts Commission is organizing a study designed to provide relief to real estate (Chapter 45 Resolves 1943). There are 38 bills before Congress seeking to grant relief to municipalities by permitting taxation or in lieu payments on presently exempt federally owned property. The Joint Legislative Committee on Assessing and Reviewing (New York) has issued its final report (Legislative Document 1943 No. 69), recommending, among others, recodification of laws relating to assessment of real property into a Property Tax Law; an agency to supervise assessments; improvement of equalization; and provision by the Legislature for review of assessments.

LEVIES

Florida adopted a ¼ mill tax for counties (105,000 to 200,000 population), and a 1 mill tax for counties (19,000 to 100,000 population), subject to county referendum for economic planning and pursuits (S.B. 690; H.B. 832, 882). Idaho levied a two-mill tax for livestock control and tuberculosis indemnity (Laws of 1943, Chapter 139). Illinois authorized a county library levy of 2/3 mill with an optional increase to two mills by referendum in the county (H.B. 117). All separate city levies for snow, garbage, sewers, bridges, etc. are consolidated by an Iowa amendment (S.F. 182). Kansas omitted its general fund levy for the first time in its state history, though retaining its state levy for educational building fund and soldier bonus bond payments.

A Minnesota constitutional amendment to be submitted to vote in 1944 would authorize an excise tax on fluids, and taxes on aircraft in lieu of personal property taxes, for airport construction, maintenance and operation (H.B. 517). A state levy commencing in 1946 and for four years thereafter is to produce $235,000 for construction of a Mechanical Engineering and Aeronautics Building on the university campus (H.B. 1441); and a further levy of $100,000 a year for ten years is provided for the Minnesota Metropolitan Airport Fund limited to one mill in any city affected (H.B. 1387). The same state may tax aircraft used in interstate commerce as personal property (*Northwest Airlines Inc. v. State of Minnesota*, 7 N. W. 2nd, 691), unless the United States Supreme Court, which has heard the argument, rules otherwise (12 U. S. Law Week 3146).

The Nebraska attorney-general has ruled that an emergency levy may not exceed the overall statutory limitation (June 18, 1943).

Aid to rural schools is provided by a Nevada five-mill tax, districts to participate being required to levy a district tax of 25 cents (Laws of 1943, Chapter 159); while a North Dakota constitutional amendment to be submitted at the next election proposes establishing a State Equalization Fund with a four-mill tax for assisting elementary and secondary schools (House Concurrent Resolution 9, 1943).

Oregon would, if the voters approve, amend its Constitution to provide a two-mill tax for the benefit of veterans of the Second World War (H.J.R. 7); and also levy a 2/10 mill tax for educational aid to such veterans (H.B. 400).

EXEMPTIONS

Increasing numbers of states have provided tax exemption, interest and penalty concessions, and other types of tax relief to soldiers and veterans, including: prohibiting sale for delinquent taxes—Arizona (Laws of 1943, Chapter 79); extending veterans' exemption to include peace time service—California (Proposed Constitutional Amendment, Laws of 1943, A. C. A. 1); granting $1000 tax exemption—Connecticut (Laws of 1943, Chapter 206), and Idaho (Laws of 1943, Chapter 131), $2000—Michigan (General Property Tax Law §3395 ¶11), $3000 for totally disabled veterans—New Hampshire (Laws of 1943, Chapter 174); preserving homestead exemption rights—Florida (S.B. 339), Georgia (H.B. 419), Oklahoma (H.B. 71); deferring tax payments—Illinois (H.B. 554), Minnesota (Laws of 1943, Chapter 641), North Dakota (S.B. 1); waiving interest on taxes levied—Texas (S.B. 130), Iowa (H.F. 401), Rhode Island (Laws of 1943, Chapter 1349); temporary exemption of real property—Massachusetts (Laws of 1943, Chapter 412); and excluding military service time from the redemption period—Ohio (S.B. 283).

Two important decisions have resulted from attempts to tax federally owned property leased to private corporations. In the *Mesta Machine Company* case, 347 Pa. 191 (now on appeal to the United States Supreme Court), machinery leased to the corporation by the United States which becomes a part of the mill property was held taxable to the corporation, notwithstanding the reservation of title in the United States. In *Bethlehem-Fairfield Shipyard Inc. v. Appeal Tax Court of Baltimore City* before the Maryland State Tax Commission (C.C.H. Maryland pp. 2531-2), improvements constructed by the Bethlehem-Fairfield Corporation on land leased to it by Union Shipbuilding Company were assessed against Union Shipbuilding Company, despite provision in the contract by Bethlehem-Fairfield Shipyard Inc. with the United States Maritime Commission describing the structures as the personal property of the Commission, and the liability of the Commission to pay taxes as part of its contract.

In California, however, it was held that a contract provision for passing title to the Government on partial payment to a company engaged in the construction of airplanes left no interest subject to taxation (*Douglas Aircraft Co. Inc. v. Byram et al.*, 134 Pac. 2d 15). The Ohio Board of Tax Appeals has denied exemption to a United States Housing Authority slum clearance and low construction housing project. The City of Rochester (New York) has pending the determination of three cases involving real estate taxation of buildings leased to private agencies by the Federal Government.

Some states have already amended their statutes to permit taxation of federally owned real estate where Congress has provided for such taxation, notably Pennsylvania (H.B. 993) and Texas (H.B. 520); and others, including New York, are expected to change laws presently providing for exemption of *all* property of the United States.

Florida may not enforce its Commercial Fertilizer Law against the Secretary of Agriculture on fertilizer purchased outside the state for use within under the decision in *Mayo v. U. S.*, 87 L. E. 1082.

Problems created by rationing and freeze orders gave rise to statutes which, in Maine, authorize tax relief by bill in equity to owners of resort property (Laws of 1943, Chapter 342); in Maryland permit optional periods for valuation of stocks of goods where prices are frozen (Laws of 1943, Chapter 811); and in New Hampshire authorize assessors to consider valuation decreases of stock in trade caused by freezing orders restricting traffic in stores (Laws of 1943, Chapter 78).

The Metropolitan Opera House is included in a general exemption granted by the New York Legislature (Laws of 1943, Chapter 636). California will vote on a constitutional amendment to supplement present legislative authority to grant exemption for religious, hospital, or charitable purposes (A.C.H. 17).

ASSESSMENTS

Alabama adopted an Expenditures and Economical Tax Appeals Act (H.B. 530) applicable to larger counties where the decision of a commission of three is final, if the taxpayer elects to use procedure. Idaho now provides for assessment of electric lines of rural electrification association by the State Board of Equalization (H.B. 108). An Illinois statute (H.B. 319) prevents objections to municipal levies on ground of classification, itemization, or reasonableness of items, if a hearing has been had on the budget, unless the same objection was presented at the hearing. The State Tax Commission of Michigan recommended to local taxing officials reduction in realty values of closed gasoline stations, and no assessment on the personal property of closed gasoline stations. The State Board of Equalization of Nebraska has no jurisdiction to review an assessment affecting only a group of individuals within a county, its function being to equalize assessments between counties (*County of Scotts Bluff v. State Board of Equalization*, 11 N. W. 2nd 453).

Congress has provided for state and local taxation of lands within Grand Coulee Dam project sold under contract, with cancellation of all liens if lands revert to the United States before transfer (H.R. 839, Chapter 269, 50 Stat. 208).

The Florida Supreme Court has directed that turnover, ability to sell and replace, and depreciation shall be considered in determining full cash value of tangible personal property, and rejected lump sum sale value of a stock of merchandise (*County of Hillsborough v. Knight & Wall Co.*, 14 So. 2d 703). The United States Circuit Court of Appeals, Sixth Circuit, decided in *Hudson Motor Car Company v. City of Detroit*, June 22, 1943, that assessing officials need not consider as evidence of value, earnings or losses of the corporation as a going concern; but the use to which a railroad is put may be taken as evidence of its value, *e. g.* logging operations, according to two Washington cases (*Ozette Railway Co.* and *Polson Logging Co. v. Grays Harbor County* C.C.H. Wash., p. 2325).

ADMINISTRATION

The Attorney-General of South Dakota has held county property taxes and state retail sales taxes concurrent and co-equal claims, where delinquent (Opinion, Attorney-General, March 24, 1943 to Director of Taxation).

A Minnesota Statute (Laws of 1943, Chapter 544) designed to rehabilitate the downtown area in St. Paul, would permit the creation of a Central Business District Authority with power to acquire municipal facilities and provide public improvements, with borrowing and taxing powers.

Wisconsin has a new special assessment law (Laws of 1943, Chapter 278) providing for control of improvements, and issuing of general bonds instead of the former system of giving bonds to contractors.

VII. PUBLIC FINANCE AND TAXATION

CORPORATION AND BANK TAXES

By Chester B. Pond
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FEDERAL TAXATION

Corporation Normal Tax and Surtaxes.—Federal corporation (including bank) taxes now in effect are those relating to the Federal Revenue Act of 1942. Congress failed to complete its action on the 1943 Revenue Bill before the end of the calendar year.

Normal tax rates under the 1942 Revenue Act were unchanged with the exception of net incomes between $25,000 and $50,000 for which the alternative tax became effective, changing the tax to $4,250 plus 31 per cent of the amount of net income over $25,000. Surtax rates were increased on income as follows: 10 per cent of income under $25,000, 22 per cent of income from $25,000 to $50,000, and 16 per cent of all income over $50,000.

An additional credit was allowed, namely, the adjusted excess profits net income. Thus, the amount subject to excess profits tax was not subject to normal tax or surtax. Public utilities were allowed an additional credit for surtax purposes for certain dividends paid on their preferred stock. As a complimentary provision, such preferred dividends of public utilities were not allowable to recipient corporations in the computation of their dividends received as credit for surtax purposes. The tax on improper accumulation of surplus was not applicable to income subject to excess profits tax.

Capital Gains and Losses.—Under the amendments of the 1942 Revenue Act, there were only two classes; short term, sale of capital assets held not more than six months, and long term, sale of capital assets held over six months. Full amount of the gain or loss was taken into account. Capital losses were deductible only against capital gains. The net capital loss might be carried over to the five succeeding years and applied against future capital gains. The alternative tax of 25 per cent was made to apply to corporations on net long-term capital gains only. Real property, land and building, was no longer considered capital assets, so allocation of gain or loss was made unnecessary. New section 117(j) provided relief for taxpayers who realized gains from sale of machinery and other depreciable business property and real property used in business, held for more than six months and also from involuntary conversion (including condemnation, seizure, destruction) of property sold or capital assets held for more than six months. If a bank or trust company sustained a net loss from the sale of bonds, debentures, etc., such loss was to be considered not a capital loss but an ordinary loss deductible in full against other income.

Excess Profits Tax.—In the 1942 Revenue Act, the graduated tax rate on excess profits was changed to a flat rate of 90 per cent. The new tax bill of 1943, which at the time of writing is still not approved, increases the rate to 95 per cent, and continues the post-war credit of 10 per cent, payable in non-interest-bearing bonds redeemable after the war. The post-war credit may be currently utilized in reduction of indebtedness but is limited to 40 per cent of the principal of the debt retired, but not in excess of the amount of post-war credit. The unused excess profits credit may still be carried back for two preceding years, after Jan. 1, 1941, or forward for two years. The credit under section 780 (a) for any taxable year is not to be greater than the excess of the amount of tax paid under this sub-chapter to the United States if the excess profits tax rate were 85½ per cent or if the limitation of section 710 (a) (1) (B) is applicable if the amount determined under such section were reduced by 10 per cent. The 1942 Revenue Act named a limit of 81 per cent, and credits for the invested capital method were lowered. By the 1943 bill, they are again lowered, each bracket above $5,000,000 being changed one percentage point. The credit becomes 6 per cent between $5,000,000 and $10,000,000; 5 per cent between $10,000,000 and $200,000,000, and 4 per cent for the balance, if any.

For the most part, the amendments of the 1942 Revenue Act affecting the excess profits tax consisted principally of new provisions affording general or specific relief from the incidence of a high tax rate and numerous technical rules of varying importance. The basic features in connection with the determination of the excess profits net income and excess profits credit were continued. The important change in the law affecting all taxpayers was the increase in the rate of tax. The same may be said of the pending 1943 bill.

STATE TAXATION

Corporate Income Taxes.—The states have also been active in making changes in their tax laws affecting the various forms of corporate activity. The more important changes for 1943 are summarized by appropriate headings.

South Dakota repealed the tax on corporate income except the tax on bank and financial institutions (Ch. 295). Maryland granted a 33 1/3 per cent credit against income taxes for the calender years 1942, 1943, and 1944 (Ch. 319). Alabama provided that the amount of amortization of war or emergency facilities authorized by any Federal Revenue Act shall be allowed as a deduction from gross income for any taxable period ending 1943 and for subsequent periods (H.B. 529). Georgia granted the same relief (H.B. 521). California allowed deductions for pension trust and property losses due to war and added provisions concerning renegotiation of contracts (Chs. 37, 38, 351, 352, 356, 887).

New York permitted the deduction of interest on bonds and other forms of indebtedness in connection with a bankruptcy reorganization (Ch. 598). Net capital loss of one year can henceforth be used as an offset against net capital gain during one of the five succeeding years (Ch. 27). North Carolina permitted a 5 per cent deduction from the net income for charitable contributions (H.B. 19). South Carolina granted a deduction for contributions to the state up to 5 per cent of the net income (H.B. 237). Pennsylvania reenacted its corporate net income tax for the years 1943 and 1944, reducing the rate from 7 to 4 per cent. It no longer allows deductions for Federal income and excess profit taxes, beginning with 1943 (Act 108). Massachusetts extended the 10 per cent temporary additional tax on corporations for the years 1944, 1945, and 1946 (Ch. 482).

Wisconsin extended its privilege dividend tax until June 30, 1945 (Ch. 367). It permitted the deduction of repayments and credits on renegotiation of war contracts from taxable income of the year in which such income was reported (Ch. 197). Minnesota provided that corporative associations producing and supplying electrical power shall be taxed on that portion of their net income which corresponds to the gross receipts derived from the sale of electricity to consumers located within corporative limits (Ch. 643). Montana levied on corporations ceasing to do business a new tax of 3 per cent on their net income earned during the last year of business, in addition to all other corporate license taxes (Ch. 67).

Franchise and Capital Stock Taxes.—Delaware granted total exemption from the franchise tax to corporations with a Delaware charter, whose assets are located in enemy-occupied countries (H.B. 167). California exempted several types of organizations, such as labor organizations, chambers of commerce, business leagues, religious corporations, and cemetery companies from the corporation franchise tax (Ch. 984). This state also granted a 15 per cent credit against the bank and corporation franchise taxes paid for the years 1944 through 1946 (Ch. 355). Pennsylvania, in Act 323, gives an exemption from the capital stock and franchise tax to all domestic and foreign manufacturing corporations, except those engaged in the distilling of liquors and those which enjoy the right of eminent domain. Domestic corporations are exempted only as far as their capital stock is invested or employed in manufacturing within the state.

Out-of-state corporations are exempted with regard to property, wages, and gross receipts used for manufacturing purposes within Pennsylvania, effective Jan. 1, 1945 or on the first day of the calendar year after the cessation of hostilities—whichever is earlier. Maryland exempted social clubs, veterans associations, cultural corporations and volunteer fire associations from the franchise tax (Ch. 313). Missouri released all corporations newly chartered, or beginning to do business in the state, from the tax in their first year (Ch. 33). New York extended, (Ch. 120), the emergency rate of 1½ per cent of entire net income allocable to New York under the business franchise tax to the privilege year beginning Nov. 1, 1944. Ch. 603 excludes obligations issued by the United States from gross assets in allocating capital stock of certain corporations subject to the franchise tax. Oregon gave its Tax Commission the authority to reduce the corporate excise tax, if the tax receipts of the state should exceed a certain amount (Ch. 438). Acting on this authority, the Tax Commission reduced the corporate excise tax from 8 to 2 per cent for the calendar year 1943 and the fiscal years beginning in 1943.

North Carolina amended its franchise tax law in several respects (H.B. 19). One provision is to the effect that a subsidiary corporation must add to its capital stock, surplus and undivided profits, all indebtedness owed to, endorsed or guaranteed by, the parent corporation as a part of the base for the franchise tax. If any of the capital used by the parent corporation is borrowed, the subsidiary may deduct from its indebtedness to the parent corporation such proportion of the indebtedness as the indebtedness of the parent corporation is to the total assets of the corporation.

Illinois requires the payment of an additional license fee by a foreign corporation, at the time of the filing of its annual report, whenever the report discloses an increase in the amount of its capital and paid-in surplus represented in Illinois (H.B. 181). Massachusetts fixed the minimum fee for the filing of consolidations, in the case of domestic corporations, at $50 and in the case of foreign corporations at $100 (Ch. 405). The filing of annual reports with the Secretary of State, for a fee of $1 is required by a South Dakota amendment (S.B. 149) from all profit corporations, except banks, insurance companies, and utilities whose status is regulated by a special law. Tennessee amended the franchise tax law by adding apportionment ratios for determining the tax on railroads, motor-carriers, and pipelines (Ch. 30). Vermont provided for specified fees, not to be less than $20, to be paid in case of consolidation or merger (S.B. 43).

Bank Taxes.—California granted a 15 per cent credit against the bank franchise tax paid from the years beginning between Jan. 1, 1944 and Jan. 1, 1946 (Ch. 355). The Oregon Tax Commission reduced, on the authority of Chapter 438, the bank tax from 8 to 2 per cent for the calendar year 1943 and fiscal years beginning in 1943. Pennsylvania did not extend the temporary increase of the bank tax rate from 4 to 8 mills per dollar beyond Dec. 31, 1942. A reduction of its license tax on investment companies from 3 to 2 per cent of gross profit was granted by Tennessee (Ch. 127).

Alabama provided a deduction from the excise tax on financial institutions in so far as all contributions to recognized religious, charitable, scientific, or educational institutions might be deducted from net income. However, the deduction shall not exceed 5 per cent of the net income of the financial institution not considering the deductible amount (H.B. 219). Arkansas provided that dividends derived from shares in state banks or trust companies or national banking associations shall be exempt from the income tax during 1942 and afterwards (H.B. 68). Georgia (H.B. 60) extended to savings banks, incorporated under the laws of Georgia or of the United States, the income tax exemption granted to banks and trust companies. Dividends received from stocks of banks and trust companies are to be excluded in computing gross income.

Under a new Indiana law (H.B. 68), a bank or trust company may deduct from its total deposits the amount it owns in obligations of the United States, the State of Indiana or its subdivisions, the principal of which is exempt from state intangible property taxes. The deduction shall not exceed 50 per cent of the difference between the amount representing public deposits, non-resident deposits and deposits of other banks, and the total deposits of the taxpayer. Washington provided that credit unions or their members shall be exempt from property taxes with regard to their shares and deposits (Ch. 131). The repeal of the South Dakota income tax does not affect the excise tax on banks. The South Dakota law (S.B. 106) stated that the tax on bank and financial corporations shall be in lieu of all other taxes, except real property taxes.

Arizona passed an income tax measured by shares. The new law (Ch. 11), replacing a bank tax measured by shares, imposed a 5 per cent annual tax on the entire net income of every bank located or doing business in the state, beginning Jan. 1, 1944. Income from Federal, state, and local securities is to be taxed like ordinary income. Real property owned by banks shall be taxed like other real property. Rhode Island increased the tax on state and national banks from 3 to 4 per cent of net income and added new provisions concerning the gain or loss from sales or other dispositions of securities. These amendments apply to the taxpayer's income for the calendar year 1942 (Ch. 1341).

Gross Receipts Taxes.—Illinois amended the utilities gross receipts law to put the 3 per cent tax rate on a permanent basis. A three-year time limitation is placed on deficiency assessments except in the case of false or fraudulent returns or the failure to file any return. A similar limitation is imposed on refunds or credits for erroneously paid taxes (S.B. 413). New York extended the 2 per cent tax on the furnishing of utility services to March 31, 1944 (Ch. 120). Pennsylvania extended the gross receipts tax levied on public utilities at the current 20-mill rate for the six months' periods ending June 30 and Dec. 31, 1943, and at the rate of 14 mills for the six months' periods ending June 30 and Dec. 31, 1944. Gross receipts from sales for resale of electric energy to persons subject to the utilities tax upon such resale are exempted (Act, 156).

Tennessee excludes transportation systems operating street cars within a municipality and its environs from the definition of "transportation systems" as given in Item O, Sec. 2, Article II, General Revenue Act. It sets up a new privilege tax for such systems at the rate of 2 per cent of the receipts from intrastate business, where annual gross receipts exceed $3,250,000, and at the rate of 1½ per cent of receipts from intrastate business where the annual receipts are less than $3,250,000 (Ch. 95). North Carolina imposed a tax of 3 per cent on the gross earnings from all sources of freight car line companies in lieu of all other *ad valorem* taxes. This tax is applicable to all freight line gross earnings accruing from and after June 30, 1943 (Ch. 400).

Oregon created a new tax of 2 per cent on the gross earnings derived from the sale and distribution of electrical energy by associations and cooperatives (Ch. 339). Washington authorized the Utility District Commission to create joint commissions, and levied on their operation a tax varying from 2 to 5.6 per cent of their gross revenues. If taxes must be paid to a governmental body outside the state, the amount may be deducted from the amount of taxes otherwise payable. This tax is in lieu of all *ad valorem* real and personal property taxes (Ch. 15). Wisconsin imposed an excise tax of seven cents on each 1,000 cubic feet, or fraction thereof, of natural gas used or consumed in Wisconsin (Ch. 339).

Chain Store Taxes.—Iowa exempted persons selling at retail certain products, such as agricultural seeds, twine, and fertilizer from the chain store tax, provided that the sales of their products exceed 95 per cent of all retail sales by these persons in the state (S.F. 233). Texas (H. 10) excluded business of building material and retail lumber from the definition "stores" under the chain store tax, provided at least 75 per cent of the gross proceeds of business done is derived from sales of lumber and building material. Gas and electric utilities in towns with a population under 3,000 and their retail stores selling gas and electrical appliances were exempted if at least 75 per cent of the total gross proceeds in each town is derived from the sale of gas or electric services.

Insurance Taxes.—Alabama repealed the law which gave municipalities the power to levy a privilege tax on gross premiums of mutual insurance companies at a rate not exceeding the state tax rate (H.B. 39). Nebraska granted a deduction of return premiums and dividends paid, in computing the tax on foreign and domestic fire insurance companies (L.B. 215). Chapter 73 of the Minnesota law specifies that the gross premiums tax on foreign insurance companies shall be in lieu of all other taxes, except only real property taxes; personal property taxes were previously also excepted.

Florida (S.B. 11) provided for reciprocity of penalties and other obligations concerning agents doing business in other states. Maryland makes it unlawful for domestic insurance companies to do business in other states without complying with the license provisions of the other states (C.H. 495). A new Massachusetts law (C.H. 531) changed the tax base from reserves to premium. Life insurance companies shall henceforth pay a tax of 2 per cent on all new or renewal premiums which have been received and are allocable to Massachusetts. The tax of ¼ of 1 per cent of the net values of policies which was formerly imposed, was abrogated, except for specific instances in which it was continued as an alternative law. A new Utah law (Ch. 54) exempts ocean marine insurance companies from the 2¼ per cent gross premium tax, but imposes a 5 per cent tax on the underwriting profits of such companies instead. A three-year average underwriting profit is to be computed as basis for the tax according to specific provisions of the law.

A California amendment (Ch. 956) expanded the gross premiums tax to cover reciprocal exchanges as "insurers." It also adjusted the basis for premium taxes in accordance with (Article XIII, Section 14) the State Constitution, as amended in 1932, which established a graduated tax rate from 2.55 to 2.35 per cent for the years 1943-1947 and the latter rate for subsequent years. A Maine amendment (Ch. 179) expanded the gross premiums tax to cover annuity policies. The tax is applicable to premiums on contracts issued after Aug. 1, 1943. It makes such annuity considerations subject to an annual tax of 2 per cent. The exemption of annuity companies from provisions of the law governing taxation of life insurance companies was repealed.

New Mexico extended the 2 per cent privilege tax on gross income so as to cover insurance membership and policy fees (S.B. 114).

ESTATE AND INHERITANCE TAXES

By Mortimer M. Kassell
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GENERAL

The outstanding development in death taxation in 1943 was the decision of the United States Supreme Court in *Estate of Rogers v. Helvering* (88 L. ed. *Advance Opinions* 148), where the Court held that property subject to a general testamentary power of appointment passed upon the exercise of such power by the donee and that the value thereof was includible in the gross estate of such donee, for Federal estate tax purposes, even though the appointee received less under the exercise than he would have received if the power had not been exercised. The Court distinguished its holding in *Helvering v. Grinnell* (294 U. S. 153) by stating that where "a donee of a power merely echoes the limitations over upon default of appointment he may well be deemed not to have exercised his power, and therefore not to have passed any property under such power."

The importance of the decision is somewhat reduced, for Federal estate tax purposes, because of the amendments made to section 811(f) of the Internal Revenue Code by the Federal Revenue Act of 1942 so as to require the inclusion in a decedent's gross estate of property with respect to which decedent at the time of his death had a power of appointment, regardless of whether such power was exercised. However, the limitation of the holding in the Grinnell case will probably give rise to much litigation under the inheritance and estate tax laws of the several states.

STATE TAXATION

In *Central Hanover Bank Co. v. Kelly* (319 U. S. 94), the Supreme Court held that New Jersey may constitutionally tax, as a transfer made in contemplation of death and intended to take effect in possession or enjoyment at or after the transferor's death, the irrevocable transfer in trust of securities made by a New Jersey domiciliary to a New York corporation, although the securities were at all times kept in New York and administered there by the trustee. It further held that there is no constitutional reason why a state may not make such an *inter vivos* transfer the taxable event and measure the tax by the value of the property at the time of the death of the transferor.

STATE LEGISLATION

There were many important legislative changes in state death tax laws. Arkansas provided for the apportionment among distributees of the burden of any state or Federal death tax paid by an executor or administrator (Act 99). Arizona exempted transfers of intangibles of non-residents from its estate tax (Chapter 32). Colorado provided for the reciprocal exemption of personal property of non-residents (H.B. 191). Idaho limited the exemption of transfers of previously taxed property to those upon which a tax had been paid to it (Chapter 176). Iowa amended its law in a similar manner (H.B. 19). Massachusetts provided for the settlement of disputes respecting the domicile of decedents (Chapter 428) and for the apportionment among persons interested in the estate of estate taxes imposed by the United States or Massachusetts (Chapter 519).

Minnesota amended its law with respect to the taxation of jointly held property, the exemption of transfers for the use of the United States or any state, the reciprocal exemption of charitable transfers, and limitation of the deduction for previously taxed property (Chapter 504). Missouri provided for the temporary taxation of contingent remainders at the lowest possible rate (H.B. 308) and exempted proceeds of life insurance policies payable to named beneficiaries (H.B. 340). Montana provided for a credit against its inheritance tax for the amount of death taxes actually paid to any other state or territory of the United States or the District of Columbia (Chapter 236). New Hampshire provided for the apportionment among beneficiaries of Federal and New Hampshire estate taxes (Chapter 175).

New York amended its estate tax law with respect to the manner of inclusion of community property and life insurance in the value of the gross estate, and the allowance of deductions for claims against the estate, previously taxed property and charitable transfers, to conform to the amendments made to the analogous Federal estate tax provisions by the Revenue Act of 1942 (Chapter 608). North Carolina amended its law with respect to the taxation of the transfer of life insurance proceeds (H.B. 19). Oregon amended its law with respect to deductions for previously taxed property (S.B. 54) and became a community property state (H.B. 208). South Dakota provided for the taxation of the transfer of jointly held property (S.B. 214). Utah amended its law with respect to taxation of transfers of jointly held property (S.B. 30) and the allowance of deductions for previously taxed property and charitable bequests (S.B. 32), and provided for the reciprocal exemption of intangibles of non-residents (S.B. 132).

FEDERAL TAXATION

In *Merchants National Bank of Boston v. Commissioner of Internal Revenue* (88 L. ed. *Advance Opinions* 55), the United States Supreme Court held that the value of a trust remainder bequeathed to charities is not accurately calculable and therefore is not deductible in computing the value of the net estate for Federal estate tax purposes, where the trustee was authorized to invade principal for the comfort, support, maintenance, and/or happiness of the life beneficiary, even though the trust income was not unsubstantial and the life beneficiary was 67 years old with substantial independent means and no dependent children. In *Harrison v. Northern Trust Co.* (317 U. S. 476), the Supreme Court held that, in computing the value of the net estate for Federal estate tax purposes, deductions may be made for the amount of the residuary estate bequeathed to charitable organizations only in the amount actually passing to such organizations after payment of the Federal estate tax.

AUTOMOBILE TAXES

BY BEULAH BAILEY THULL

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EFFECT OF THE WAR

The vanishing American automobile is disappearing all too swiftly from the scene. According to figures from the Public Roads Administration, the Middle West and West now have 57 motor vehicles where 100 used to flourish, while the more severely rationed East has only 40 for every 100 on the road in 1941. The registration of buses—105,410 in 1942—was the largest in motor vehicle history and the registration of motor cycles was 28,000 greater in 1942 than in 1941, but as the supply has been cut off at the source, this registration can not be maintained. Registration of passenger cars and commercial vehicles declined 5½ per cent during 1942. This decline can be expected at an accelerated rate as gasoline rationing and wear continue to affect the motor vehicles of all classes of operators.

The state legislatures meeting in 1943 had to recognize that revenue from automobile taxes inevitably must decline. Commercial transportation systems could be expected to maintain a fairly constant registration figure, but a loss must be expected in all revenues from passenger cars. About 50 per cent of the automobiles now in operation belong to workers in war industries. Necessity for getting to work should keep most of these workers' cars in operation. Above that number, the distribution of motor vehicles in the several states can be expected to shift greatly. In two summer months in 1943, New York State owners who could not use their cars due to the pleasure driving ban sold 12,000 cars to western dealers. It was to be expected, therefore, that current legislation was more concerned with wartime adjustments than any changes in, or in addition to, the motor vehicle tax system.

LICENSES AND FEES

Several states continued the operators' licenses of the members of the Armed Forces without payment of additional fees. Nine states—Connecticut, Oregon, Indiana, Kansas, Michigan, Minnesota, New Hampshire, North Carolina, and Texas, reduced the minimum age required to obtain an operator's license. North Carolina led all the rest by reducing the age to 15, while the other states placed the lower limit at 16. In almost all states, where chauffeurs' licenses were made available to a younger group, such persons were prohibited from operating buses, taxicabs, and large trucks.

The "share the ride" movement was encouraged by Connecticut, California, Kansas, Minnesota, and New Mexico, whose legislatures permitted privately owned automobiles to transport persons to and from work for compensation without payment of commercial license fees, providing that the transportation supplied was incidental to the operator's own travel to and from work. Washington instituted special rates of $3.25 plus a $10 registration fee, for victory motor vehicles which are used solely to transport more than six defense workers to and from their jobs. The proceeds from these fees are to pay the expenses of necessary supervision and regulation of these vehicles.

Tax adjustments, which take into consideration the increasing age of automobiles, were made by three state legislatures. In Vermont, pleasure cars weighing 2,500 pounds or less and older than 1937 may be registered for a fee of $14. The minimum registration fee for all other vehicles is $18. Pennsylvania reduced registration renewal fees to a flat sum of $10 for all passenger cars instead of the previous rate of $.40 per horsepower. Washington repealed the law imposing *ad valorem* property taxes upon automobiles and substituted an excise tax of 1½ per cent of fair market value; the tax is for the privilege of using automobiles in Washington. In no case is the tax to be less than $1.00.

New Mexico created the Department of Courtesy and Information. All commercial vehicles not otherwise registered or licensed in the state are required to register with this new department. The owners of these vehicles must pay a mileage tax whose rate ranges from 1½ cents to three cents per mile, according to the weight of the vehicle.

RECIPROCAL AGREEMENTS

Reciprocal privileges were extended in several states. Utah and Idaho signed an agreement which provides reciprocal privileges for interstate motor vehicles from either state for license and registration fees. For hire vehicles must obtain required authority from each state. The

Maine Legislature, under reciprocity provision, exempted from motor vehicle excise taxes trucks or trailers having a rated carrying capacity of more than 1½ tons if these vehicles are engaged in interstate commerce in Maine. Oklahoma authorized the Oklahoma Tax Commission to enter into reciprocal agreement concerning commercial vehicles engaged in interstate commerce, providing that such agreements are beneficial to residents of Oklahoma. Wisconsin officials are permitted to make reciprocity agreements in regard to motor carrier registration for the duration of the war. Virginia waived the 2 per cent gross receipts tax on North Carolina trucks and on trucks from other states. The $1.00 registration fee required of all foreign vehicles in Virginia also will be waived for the duration.

MOTOR FUEL TAXES

The decline in state revenue from motor vehicle taxes and fees has been exceeded by the decline in motor fuel tax returns. Not only are there fewer automobiles on the road but the rationing program has limited the quantity of gasoline which these cars can purchase. There was a decline of 20 per cent in the yield of this tax in 1943 as compared with 1942. The Public Roads Administration figures, covering 31 states for the first nine months of 1943, show a motor fuel tax collection of $181,306,000 as compared with $250,745,000 collected in the same states during the first nine months of 1943. The Virginia Highway Department expects a further decline of $5,000,000 in the state's highway revenues if gasoline restrictions continue another year. In Montana, Florida, Tennessee, Nebraska, and Georgia, where the gasoline tax revenue was one of the chief sources of the state funds, this decreased return created serious difficulties.

No state changed its gasoline tax rate in 1943. Montana attempted to raise its tax from five cents to six cents subject to a referendum, but the courts granted an injunction against the holding of the election. All states which previously had enacted temporary additional gasoline taxes continued the life of the increase. Nebraska made its five cents a gallon rate permanent.

The swing to Diesel fuels as the result of continued restrictions on gasoline did not escape the attention of the Colorado, Connecticut, Indiana, New Hampshire, North Dakota, and Oregon legislatures. These states imposed taxes at rates equal to their rates for gasoline on all other fuels used by motor vehicles on the public highways. Texas reduced its Diesel fuel tax from eight cents to six cents a gallon.

EXEMPTIONS

The question of the status of the Federal Government as a gasoline purchaser in the several states has been brought into sharper focus as the result of the increased governmental purchases of gasoline for the war effort. At least eleven states examined the question of Federal tax exemptions and refunds, and clarified the laws which determine them. Alabama and Texas exempted the sales of gasoline and lubricating oil to the United States. Florida exempted sales of gasoline for the exclusive use of the United States, if the gasoline is sold in lots of 500 gallons or more. Georgia exempts from tax gasoline purchased and paid for by the United States. North Dakota exempts fuel used by publicly owned vehicles engaged in highway construction. Kansas and Tennessee exempt purchases by political subdivisions, and, in addition, Kansas exempts public agencies from the payment of the tax.

EARMARKING OF MOTOR FUEL TAX RETURNS

The pitfalls of earmarking tax revenues for specific purposes became evident in some states with the decline of motor fuel tax returns. Arkansas, Louisiana, Mississippi, West Virginia, and Iowa were forced to make monetary readjustments in 1943 because they had designated a considerable portion of their gasoline tax revenue for debt service.

The New York and Pennsylvania legislatures took steps to limit the use of motor fuel tax receipts to highway purposes. In both states action took the form of proposed constitutional amendments, which must be approved at future elections. In New York State, the proposed amendment must survive the 1945 session of the legislature before it is submitted to the people.

PERIODICAL PUBLICATIONS

American Economic Review
Northwestern Univ., Evanston, Ill.

Annals, The
American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.

Business Week
330 West 42nd Street, New York City.

Commercial and Financial Chronicle
25 Spruce Street, New York City.

Journal of Economics
Harvard University Press, Cambridge, Mass.

Journal of Political Economy
5750 Ellis Ave., Chicago.

Nation's Business
Chamber of Commerce of the United States, Washington, D. C.

Tax Digest
15 East 26th Street, New York City.

Tax Magazine
350 Fifth Ave., New York City.

Tax Policy
135 S. 36th Street, Philadelphia.

Taxes for Democracy
135 S. 36th Street, Philadelphia.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut Street, Philadelphia.

AMERICAN TAXPAYERS' LEAGUE, Munsey Bldg., Washington, D. C.

INSTITUTE OF LOCAL AND STATE GOVERNMENT, University of Pennsylvania, Philadelphia.

NATIONAL HIGHWAYS ASSN., Bass River, Cape Cod, Mass.

NEW ENGLAND STATE TAX OFFICIALS ASSOCIATION, Room 236, State House, Boston, Mass.

NORTH AMERICAN GASOLINE TAX CONFERENCE, 844-46 Consolidated Bldg., Indianapolis, Ind.

RESEARCH INSTITUTE OF AMERICA, INC., THE, 292 Madison Ave., New York City.

TAX INSTITUTE, 135 S. 36th Street, Philadelphia, Pa.

TAX REVISION COUNCIL, 850 E. 58th Street, Chicago, Ill.

DIVISION VIII

PUBLIC RESOURCES AND UTILITIES

FEDERAL SURVEYS AND MAPS

By K. T. Adams
Chief, Topography Section, U. S. Coast and Geodetic Survey

GENERAL

The United States is engaged in a war of truly global extent. The Army Air Forces are fighting in every theater of war, the Navy is in action in every ocean, and our Ground Forces are on every continent and a multitude of islands. It is not surprising that the demand for maps and charts for the use of the Armed Forces is unprecedented and that many of the established Federal agencies and commercial companies experienced in map making are actively engaged in providing these needed munitions of war at an accelerated rate. It is evident in the public reports of the various military and naval operations how essential these are in modern warfare. No important military or naval action is undertaken without an adequate supply of maps or charts, very often supplemented by air photographs taken just before the action. For the air war itself almost complete coverage of the world has been necessary.

This does not mean that the need of the United States Government for surveys and maps of its lands for administrative and other purposes is any less, but that for the duration this need has been subordinated to the needs of the Armed Forces. After the war there will be a deficit in maps and surveys to be made up.

Practically all mapping of foreign areas is confidential or secret and much of the domestic surveying and mapping is either confidential or restricted and therefore can not be reported fully. For the duration of hostilities, the issue of practically all air photographs, maps, and charts is restricted. Much information regarding Federal surveys and maps must be withheld from publication for the present.

SURVEYING AND MAPPING AGENCIES

The primary function of certain agencies is mapping and surveying. Certain other agencies make field surveys and compile maps which are necessary if they are to carry out their defined functions properly. Other agencies compile from existing data, without ground surveys, special maps to meet their special needs.

Among the first is the Coast and Geodetic Survey, which establishes the basic horizontal and vertical control throughout the country, surveys the coastal waters of the United States and possessions and publishes nautical charts of them, and prepares and publishes aeronautical charts; these results are used by other agencies and the general public. The Geological Survey makes field surveys and publishes geologic and topographic maps (quadrangles) of the country, the former often for its own use, but the latter generally only for the purpose of adding to the standard map of the country. The Hydrographic Office surveys in some foreign waters and publishes nautical charts of all foreign waters; these are used by the Navy, but not primarily by the Hydrographic Office. The General Land Office surveys and subdivides the public lands. The Soil Conservation Service and the Forest Service are examples of agencies which make field surveys and publish maps primarily for their own administrative use. The Corps of Engineers makes field surveys and publishes tactical and other maps for troop movements and other Army uses.

The cooperative mapping program inaugurated by the Corps of Engineers in 1942, mentioned in THE AMERICAN YEAR BOOK, 1942 (p. 285), was continued throughout the year with gratifying progress.

The progress of the more important surveys and mapping, so far as it can be disclosed, is reported under the various department and agency headings. In addition, compiled special purpose maps are issued infrequently by a number of other agencies. The Office of Geographer of the Department of State publishes maps in connection with treaties and other duties of that Department. The Division of Maps of the Library of Congress publishes special maps, often of historical significance. The International Boundary Commissions have published maps along the international boundaries based on accurate surveys of those areas.

A Map Information Office is maintained in the Geological Survey, which serves as a central clearing house to furnish, to the various government agencies and to the public, information relative to surveys, and existing maps and air photographs.

WAR DEPARTMENT

The mapping effort of the Corps of Engineers was directed principally toward supplying the military forces with adequate maps of the various theaters of operation. As evidence of the tremendous task involved, an initial issue of nearly 200 tons of maps was required for the beginning of the North African campaign.

Mapping of important strategic areas within the continental United States and its possessions continued at an accelerated rate. Corps of Engineer topographic units and District Engineer Offices completed standard topographic quadrangles of areas totaling about 21,000 square miles. About 85 per cent of these were in the states of Washington, Oregon, and California, the remainder being in East Coast states. Cooperating with the War Department in mapping strategic areas were the Coast and Geodetic Survey, Forest Service, Geological Survey, Soil Conservation Service, and Tennessee Valley Authority, about whose activities data are included under appropriate headings.

All domestic mapping of the War Department and cooperating agencies was done under specifications which ensured that the resulting maps would serve civil as well as military requirements.

In addition to the military mapping program, the Corps of Engineers, the Mississippi River Commission, and the Lake Survey, continued the activities described in THE AMERICAN YEAR BOOK, 1941 (p. 249).

NAVY DEPARTMENT

The Hydrographic Office publishes nautical charts of the navigable waters of foreign countries and aeronautical charts of strategic foreign areas, and makes surveys of foreign waters. During 1943 it continued the increasingly vital work of furnishing nautical and aeronautical charts to naval and merchant vessels for their world-wide operations.

In order to provide the necessary charts, particularly of areas which heretofore had neither commercial nor strategic importance, the Hydrographic Office has used all available data, including recent air photographs often taken specifically for the purpose.

Special charts and data are vitally essential for the air operations of the Navy in the various theaters of war, and the facilities for furnishing these data have been expanded to include practically the entire globe.

Nautical and aeronautical chart production of the Hydrographic Office has increased over twenty-fold in the last two years, but for reason of security the details of this extensive and important work can not be disclosed for the duration.

DEPARTMENT OF THE INTERIOR

The Geological Survey published during the year 245 new topographic maps, 42 planimetric maps, and five topographic maps in advanced form. Reprints were made of 398 topographic maps and of seven state and other maps.

New topographic surveys were completed of areas totaling 12,168 square miles, and topographic maps covering 12,850 square miles in 29 states and Puerto Rico were re-surveyed or revised. Large areas of new topographic mapping were completed in Alabama, Arizona, California, Louisiana, Michigan, Missouri, Oregon, and Washington. Planimetric maps of 1,618 square miles of area in Wisconsin, Kansas, and Georgia were compiled from air photographs for publication prior to the addition of contours.

Control surveys in connection with this mapping consisted of 84 occupied triangulation stations, 8,041 linear miles of transit traverse, and 10,765 linear miles of leveling—all of third-order accuracy or higher. Three bulletins, *930-A*, *930-B*, and *930-C*, were published during the year; these are three of the four parts of Spirit Leveling in Illinois. Manuscript for the fourth part, Bulletin *930-D*, was prepared for publication. Results of leveling, traverse, and triangulation for various quadrangle areas in different states were issued in 176 lithographed lists. Air photographs covering 11,492 square miles were procured, or contracted for, during the year for use on mapping projects. Puerto Rico, 17 states, the Tennessee Valley Authority, and the War Department cooperated with the Geological Survey in the foregoing work.

Progress was continued on the Millionth Map of the World. Sheet NJ-18, Chesapeake Bay, was published and sheet NK-16, Chicago, was in course of publication. Compilation and drafting of sheets NI-18, Hatteras; NK-10, Mt. Shasta; NK-17, Lake Erie; and NL-10, Cascade Range, were in progress.

The Transportation Map of the United States, scale 1:250,000, prepared for the Public Roads Administration, progressed. Maps of two states comprising 21 sheets were published, and maps of two states comprising 47 sheets were in course of publication.

Miscellaneous charts have been prepared for the Army Air Forces and other special work has been done for other government agencies.

Field projects started by the Alaskan Branch in 1942 were completed, but owing to the great increase in compilation being done for the Army Air Forces, and its urgency, no field projects were inaugurated in 1943. A large number of employees was obtained and trained, and instruments and methods were developed for rapid reconnaissance mapping from trimetrogon air photographs. The planimetry of approximately 2,000,000 square miles of area was mapped during the year, and production is being rapidly increased.

The Conservation Branch, in connection with its work, executed topographic and profile surveys of 20 linear miles of streams and one mineral leasehold.

The General Land Office, the Office of Indian Affairs, the National Park Service, and the Fish and Wildlife Service continued their activities as previously described in THE AMERICAN YEAR BOOK, 1941 (p. 250).

The Board on Geographical Names was reorganized and staffed to deal with pressing problems raised by wartime mapping and intelligence work and to handle a manifold increase in decisions on domestic names. An information service answers inquiries, principally from war agencies, concerning geographic names. A master file of place names was begun to implement this service, in which will appear all variant forms, spellings, and locations of all place names known to the Board.

DEPARTMENT OF AGRICULTURE

Through its various activities the Department, from 1926 to date, has accumulated air photographs of 2,887,710 square miles of area, of which about one-fourth is duplicate coverage. A net area of 2,160,096 square miles has been photographed. Owing to the demands of the war for trained air photographers and pilots, the Department's program for air photography has been greatly curtailed, and only about 60,000 square miles were photographed this year. Practically all the photographs are at a scale of approximately 1:20,000 and are suitable for use in mapping.

The Agricultural Adjustment Agency makes neither planimetric nor topographic maps, but does prepare mosaics and photomaps from air photographs. This work has been greatly expanded for military use, one project covering several large areas totaling 156,000 square miles. The total area now covered by mosaics and photomaps exceeds 200,000 square miles. These photomaps are on various scales, principally 1:20,000, 1:40,000, or 1:60,000, and reproductions of most of them are available to Federal agencies. Reproductions of the mosaics and ratioed and rectified air photographs are used extensively in connection with its programs.

The Forest Service published during the year 44 maps on scales of one, two, or four miles to one inch, and made planimetric surveys, generally based on existing air photographs, covering only 3,659 square miles. Its regular surveying and mapping activities were greatly curtailed because of the war, but, instead, it was actively engaged in the preparation of topographic maps for the War Department. Maps of two areas totaling 4,345 square miles on the West Coast were completed, except for the final drafting of nine quadrangles. An additional area of approximately 2,000 square miles is now being mapped.

The Division of Soil Survey, Bureau of Plant Industry, Soils, and Agricultural Engineering, issued during the year 16 detailed soil maps together with explanatory bulletins describing the nature, formation, use, productivity, and responses to management of the soil types, bringing the total of such published surveys to 1,524. The new maps and reports were issued for the following areas: Pixley area, Wasco area, California; Dade County, Georgia; Knox County, Indiana; Clinton County, Michigan; Albany-Schenectady Counties, Seneca County, New York; Madison County, Warren County, North Carolina; Tulsa County, Oklahoma; Newport-Bristol Counties, Providence County, Rhode Island; Pickens County, Sumter County, South Carolina; Roane County, Tennessee; and Virgin River valley area, Utah-Arizona. Thirty-seven additional maps are being printed. Field surveys were made during the year of about 5,000,000 acres in cooperation with 22 State Agricultural Experiment Stations. Many special maps, from field surveys or compiled from existing data, were prepared for use in guiding war food production.

The Soil Conservation Service published during the year 179 maps showing land use capability. These maps and their use were described in THE AMERICAN YEAR BOOK, 1940 (p. 288). The scale of the maps is four inches to one mile. Numerous small areas scattered throughout the United States, totaling 1,466 square miles, were mapped during the year. Air photography was at a minimum on account of the war, previous contracts having been completed, canceled, or held in abeyance for the duration. One area of 5,317 square miles in Virginia, West Virginia, Maryland, and Pennsylvania was photographed. Air photographs are used not only for the compilation of maps but for the superimposition of many kinds of survey data and for farm planning; new uses for air photographs are continually being found. In addition to its regular cartographic work, the mapping program for the War Department, mentioned in THE AMERICAN YEAR BOOK, 1942 (p. 288) was continued; aeronautical charts of various types were compiled for the

Army Air Forces; and mosaics of air photographs were made and reproduced for both the War and Navy Departments.

DEPARTMENT OF COMMERCE

The Coast and Geodetic Survey in 1943 published 14 new nautical charts of waters of the United States and possessions, of which 11 were for naval use. In addition, 116 new editions, 848 new prints, and 526 reprints of existing charts were published. The total number of cataloged nautical charts, which are under constant revision and of which revised editions are frequently published, is 806, of which 163 are of Philippine Island waters.

Hydrographic surveys were made covering 2,467 square miles, in which were 31,258 miles of soundings, mostly in the waters of Maine, Chesapeake Bay, Florida, and Alaska. Topographic surveys, using air photographs extensively, were made of 5,319 square miles, in which there were 7,514 miles of shoreline, mostly in Maine, Maryland, Virginia, Florida, and San Francisco Bay.

Control surveys were made as follows: First-order triangulation, 1,915 linear miles covering 26,260 square miles of area; second-order triangulation, 3,241 linear miles covering 52,623 square miles of area; first-order levels, 3,798 miles; second-order levels, 18,455 miles; 10 first-order bases measured totaling 43.8 miles; and 12 astronomic stations occupied. Reconnaissance for future triangulation extended along 3,797 miles of arc covering 66,125 square miles of area. During the year, 3,506 control stations were established in Alabama, California, Mississippi, New York, Oregon, Texas, Alaska, and nine other states; and 23,323 bench marks were established in Alabama, California, Maryland, New York, Oregon, Texas, and 17 other states.

Five new aeronautical charts were published making a total of 131 of the United States and possessions (described in THE AMERICAN YEAR BOOK, 1940 (p. 289), and 1941 (p. 251). The compilation and printing of aeronautical charts of foreign areas specially for the Army Air Forces continued at an accelerated rate; 1,486 new charts were compiled and 1,246 new charts were printed, not including revisions and reprints. About 2,000 special target charts have been made, and 1,800 operational aeronautical charts are maintained. A program for approach and landing charts of 447 airports in the United States is in progress. During the year, 289 airports were surveyed and 242 charts compiled.

Air photographs of 9,569 square miles of United States coastal areas were taken in collaboration with the U. S. Coast Guard, principally in Florida, Maine, Maryland, and Virginia, and in 12 other states; and 2,298 air photographs were taken in Alaska. From these 76 planimetric maps were compiled. The total number of planimetric maps published to date is about 750. These maps were described in THE AMERICAN YEAR BOOK, 1940 (p. 289).

Topographic quadrangle maps, scale two inches equals one mile, of certain strategic areas are being prepared for the War Department. The areas involved total about 16,000 square miles in Florida, Maine, Maryland, Virginia, North and South Carolina, and three other states. Field surveys covering about 11,650 square miles have been completed; 221 quadrangles have been compiled and 70 published.

The Weather Bureau compiles and publishes the daily weather maps and other maps which chart various meteorological data. The Bureau of the Census compiles many maps for its own use in population and other census tabulation studies, a few of which are published. The Bureau of Foreign and Domestic Commerce compiles and publishes special, usually small scale, charts on which are depicted amount and flow of commerce and other statistics.

FEDERAL WORKS AGENCY

The Public Roads Administration, in cooperation with the State Highway Departments, is conducting highway planning surveys throughout the country which will eventually provide a complete series of state and county maps showing the location of 2,963,000 miles of rural roads and the character of culture served by them.

The state maps, generally on a scale of 1:500,000, have been completed in 41 states and partly completed in 2 others.

The county maps, generally on a scale of either one inch equals one mile or 1:62,500, were fully described in The American Year Book, 1939 (p. 276) and 1940 (p. 290). They have now been completed for approximately 98 per cent of the 3,070 counties in the United States. Maps for 11 additional counties were issued in 1943. Maps for 70 of the remaining 78 counties are in progress. Many of the states are also reproducing this series at half scale, one inch equaling approximately two miles, by lithographic methods and can furnish complete sets in atlas form for their states.

The supplemental series of county maps showing rural post roads, school bus routes, and traffic flow data (see The American Year Book, 1941, p. 252) are approximately 75 per cent complete.

The state and county maps described above are produced in cooperation with the State Highway Departments and are obtainable only from those departments.

Transportation Maps, scale 1:250,000 (see The American Year Book, 1941, p. 252) for 25 states, comprising 191 sheets, have now been published. These include 78 sheets for 14 states which have been revised. In addition to the maps previously reported, there is now available a map of Illinois in nine sheets. There are also available two maps of the entire United States showing in red overprint the system of numbered U. S. highways corrected to Jan. 1, 1943. One of these is wall-sized, scale about 37 miles equals one inch, based on the General Land Office map of the United States, and the other is a desk-sized map, scale 1:5,000,000.

TENNESSEE VALLEY AUTHORITY

For the past several years the Tennessee Valley Authority has systematically surveyed and published standard topographic quadrangles, completing approximately 3,000 square miles each year, all located within the Tennessee River watershed. Final-edition maps, scale 1:24,000, now cover approximately 12,000 square miles, mostly in eastern Tennessee and western North Carolina, with small areas in southwestern Virginia and northern Georgia. Scattered quadrangles have been prepared for special purposes in northern Alabama, central and western Tennessee, and western Kentucky. These maps are compiled mainly by stereophotogrammetric methods, supplemented by planetable surveys in terrain of low relief.

Early in 1942 the Authority began mapping for the War Department approximately 20,000 square miles of area in New York and Texas, and in 1943 a third area of approximately 4,000 square miles in South Carolina. This has resulted in corresponding fewer topographic quadrangles in the Tennessee Valley area during these two years. The military maps are prepared by both the multiplex process and by planetable, at a manuscript scale of 1:20,000, for reproduction at a scale of 1:31,680 (two inches equals one mile). The field surveys for these projects are nearing completion, with reproduction scheduled to be finished by the middle of 1944.

The Authority makes extensive property surveys and cadastral maps for the purpose of land acquisition, in connection with its multi-purpose reservoir projects. Navigation charts of the new reservoirs created by the dams recently built on the Tennessee River System are prepared and published, usually at the scale of two inches equals one mile.

STATE GEOLOGICAL SURVEYS

By Wilson M. Laird
Association of American State Geologists

STRATEGIC MINERALS

During 1943 the emphasis of the State Geological Surveys continued to be on strategic minerals for the war effort; that is, of course, the result of the continued shortage of certain critical minerals. There appears to be a trend, however, from strategic mineral investigation back to original basic geologic research for which the State Geological Surveys have always been noted. This trend is important for it is only through basic research that new ideas and new products can be brought forth for the benefit of all mankind. That purely scientific research has paid has been amply shown in the development of many items which before the war were not known outside the laboratory or the class room. In the geological field, many low-grade deposits have been known but never fully worked or developed when more abundant foreign deposits were being utilized. Many of these deposits have been described by geologists working for state surveys with little or no thought of receiving personal financial remuneration for their discoveries.

WATER RESOURCES

Studies of the water resources of the various states are becoming an increasingly important function of State Surveys. As a rule, this work is done under cooperative agreements with the United States Geological Survey which furnishes half the cost and most of the personnel for the projects. The projects include both surface and ground water studies. It has been found that both surface water and ground water studies are closely related and must be carried out in close cooperation. The study of water supplies, particularly near large manufacturing centers and large Army installations, has been most important recently. In some cases large plants were inadvisedly constructed without proper thought as to the water supply, with the result that ground water had to be found nearby or piped long distances. In all these studies the State Surveys have had an active interest.

GEOLOGICAL EDUCATION FOR CITIZENS

Several of the state surveys are making considerable progress in educating the citizens of their state in the problems and value of geology. This is one of the very necessary features of survey work as one of the survey's duties is to disseminate information concerning the natural resources of the state which it is commissioned to serve. Several avenues of approach to popularizing geology have been used. Most all state geologists have opportunity to speak before interested groups; some publish popular accounts of the geology of their respective states as survey bulletins, while others run series of popular articles in local magazines and newspapers. Most surveys conduct information services for general geologic information and indentification of mineral specimens, while others send out representative sets of the minerals and rocks occurring in their states to the public schools of the state. Some conduct field trips for teachers and students, and others conduct conservation classes.

MINERAL INDUSTRY CONFERENCES

Several of the state surveys have been successful in promoting Mineral Industry Conferences. During these conferences, business men in the mineral industry field and scientists of the State Geological Survey, as well as other interested earth scientists, are brought together for the discussion of their mutual problems. Much practical good has come of these meetings both for the mineral industries and for the participating survey geologists. As a result of the interchange of scientific information and practical business "know how," new industries have been started and established businesses have been materially aided. These benefits are not entirely one sided, for the business man, when shown the value of the scientific work of the State Geological Survey, has usually been willing to back the survey with his influence when the state legislature considers the survey appropriation.

POST-WAR PROJECTS

Most state geological surveys have been established for long periods of time. In fact, several surveys have celebrated their centennial year recently. Because of this continuity, the various state surveys have built up an intimate knowledge of the geological conditions and water and mineral resources of their respective states. Then too, the state officials have more intimate relations with the various mineral producers than out-of-state organizations, Federal and otherwise.

Some of the state surveys are now being consulted in regard to post-war projects such as municipal water supplies, dams, as well as the operation of mines now regarded as marginal producers. Many communities in each state are making plans now to hold war-born industries in their midst in post-war years. Other cities are looking to the time when new profitable industries can be established. In many of these problems, the State Geological Survey can be of help and, if consulted, will probably save much public as well as private money which might otherwise be wasted in ill-advised projects.

ALABAMA

Basic and Economic Geology.—*Projects:* Guide to classic localities and type localities in the Coastal Plain of Alabama; The coal fields of Alabama; Red iron ores of northeast Alabama; The brown iron ores of Alabama; Geology of the Alabama tin belt; Limestones and dolomites of Alabama. *Publication:* Fluoride in the ground water of the Cretaceous formations of Alabama (*Bull.* 52).

Water Resources.—*Projects:* Ground water resources of the Cretaceous area of Alabama.

Others.—*Publications:* Weeds of Alabama (*Bull. 53*); Forests of Alabama (*Mon. 10*); Report of progress for fiscal years 1938-1943; Two prehistoric Indian dwarf skeletons from Moundville (*Mus. Paper 19*); McQuorquodale mound: a manifestation of the Hopewell phase in South Alabama (*Mus. Paper 21*).

ARIZONA

Basic and Economic Geology.—*Projects:* Investigation of major fault zone in west-central Arizona as related to mineral deposits; Data on recent and current drilling operations in Arizona; Zinc, lead, and copper deposits of Twin Buttes and San Xavier districts (Cooperation with U. S. G. S. and Bur. Mines); Iron deposits of Arizona; County studies of non-metallic minerals. *Publication:* Geology of the Superior mining district, Arizona (*Arizona Bur. Mines Bull. 151*).

Topographic and Planimetric Mapping.—*Publication:* Geologic map of the Superior mining area, Arizona.

CALIFORNIA

Basic and Economic Geology.—*Projects:* Work on the *California Journal of Mines and Geology* for July and October 1943. *Publications:* Geologic formations and economic development of oil and gas fields of California (*Bull. 118*); Commercial minerals of California (*Bull. 124*); Manganese in California (*Bull. 125*); The following are published in the *Calif. Jour. Mines and Geol.* July, Oct. 1942, Jan. and April 1943. Hot springs deposits; Contact metamorphic rocks of Twin Lakes; Tungsten deposits of Confidense mining district; Geology of Welsh tungsten deposits; Ghost canyon tungsten claims; Tabulation of tungsten deposits of California to accompany Economic mineral map No. 4; Biennial report of the State Mineralogist; Economic Mineral map No. 4—Tungsten; Organization and service of the Division of Mines; Mines and Mineral resources of Santa Cruz Co.; Discoveries in the strategic minerals, San Francisco field; Current notes on activities in the strategic minerals, Sacramento field district; Current notes on the activity in the strategic minerals Redding Field district; current mining activity; Mylonites in the eastern San Gabriel Mts.; Geology of the region about Lemon Cove and Three Rivers, Tulare Co.; Tungsten deposits northeast of Visalia, Calif.; Geology of the San Benito quadrangle.

Others.—*Publications:* California mineral production (*Bull. 122*); American mining law (revision) (*Bull. 123*).

COLORADO

Basic and Economic Geology.—*Projects:* Lead, zinc, copper, fluorite, molybdenum, and tungsten in Kokomo, Silver Plume, Georgetown, Salida, Leadville, Ophir Valley, Green Mountain and Boulder Co. (all work carried on under cooperative arrangement with the U. S. G. S.)

CONNECTICUT

Basic and Economic Geology.—*Projects:* Regional field work on Beryllium, Magnesium, Mica and Feldspar. *Publication:* Bulletins on natural history.

FLORIDA

Basic and Economic Geology.—*Projects:* Mineral industries; Everglades investigation; Well log paleontology; Oil development investigations; Peat deposit investigation; Bog iron ore investigation. *Publications:* Florida mineral industry; Stratigraphic and paleontologic studies of wells in Florida No. 3.

Water Resources.—*Projects:* Cooperation with the U. S. G. S. in both surface and ground water studies.

Others.—*Publications:* Natural features of southern Florida; Fifth Biennial Report.

GEORGIA

Basic and Economic Geology.—*Projects:* Mica-bearing pegmatites of Georgia; Talc deposits of Georgia; Sillimanite deposits of Georgia; Paleontology of Coastal Plain; Chromite; Manganese ores; Iron ores, 2 projects; Magnesian limestone; Asbestos; Mica; Corundum; Beryl; Bauxite; Halloysite; Wool rock; Quartz crystals. *Publications:* Mica-bearing pegmatites of Georgia (*Bull. 48*); Rock Wool (*Info. Cir.*).

Water Resources.—*Projects:* Continuing projects in stream gaging, ground water resources, and quality of water. *Publications:* Water and the 1941 Drought in Georgia; Water levels and artesian pressure in observation wells in Georgia in 1942; Ground water investigations in Georgia.

IDAHO

Basic and Economic Geology.—*Projects:* Geologic map (Cooperative with U. S. G. S.); Field studies; Office and drafting work. *Publications:* Geology of the gold-bearing lodes in the Rocky Bar district, Elmore Co. (*Pamph. 65*); Copper mineralization near Salmon, Lemhi Co. *Pamph. 60*); Preliminary report on the cobalt deposits in the Blackbird district, Lemhi Co. (*Pamph. 61*); The antimony and fluorspar deposits near Myers Cove, Lemhi Co. (*Pamph. 62*).

Others.—*Publications:* Flotation tests on fluorite ore from Lemhi Co. (*Pamph. 63*); The aerating capacity of flotation machine (*Pamph. 64*); Benefication tests on Latah Co. clays (*Pamph. 65*).

ILLINOIS

Basic and Economic Geology.—*Projects:* Areal investigations and geologic mapping; Pennsylvanian stratigraphy; Mississippian stratigraphy; Pleistocene system; Micropaleontological studies of the pre-Mississippian, Mississippian, and Pennsylvanian; Paleobotany of the

Pennsylvanian system; Geology, oil and gas resources of the Illinois basin; Secondary recovery of oil in Illinois; Field study of production conditions in the Benton pool; Chemical characteristics of Illinois crude oils with discussion of their geologic occurrence; Special study and report on production, utilization and waste of natural gas in Illinois; Monthly reports on drilling activity in Illinois; Annual report on oil and gas development in Illinois; Scouting of drilling wells and cooperation with Illinois Scout Check; Wildcat drilling in Illinois since 1936 with discussion of prospects for further discoveries; An experiment in the conversion of used automobile engines to oil field power and compressor units; General coal report; Lithological and botanical constitution of Illinois coals; Logging of Pennsylvanian strata in wells drilled for oil; Studies to determine the usefulness of coal spores as index fossils; Smokeless briquets from Illinois coals; Investigation of combustion behavior of Illinois coal to develop improved stoker fuels; Research on coking of low sulfur coals; Chemical study of tars prepared from Illinois coals in commercial and pilot plant coking operations; Chemical constitution of Illinois coals; Proximate and ultimate analyses of Illinois coals; Deterioration of laboratory samples of coal; Investigation of fluorspar resources of southern Illinois; Utilization of fluorspar; Investigation of high-purity dolomites; Investigation of Illinois tripoli for fine polishing; Agricultural limestone resources of Illinois; Petrology of Illinois clays; Surface clay resources of Illinois; Research on clay and clay products (Coop. with Ceramic Engineering Dept. of Univ. of Ill.); Bonding clay properties (Coop. with Mechanical Engineering Dept. of Univ. of Ill. and Illinois Clay Products Co.); Research on materials for camouflage paints; Study of lead and zinc resources; Amenability of clay minerals to the extraction of alumina.

Publications: Geology and mineral resources of Marseilles, Ottawa and Streator quadrangles (*Bull. 66*); Pennsylvanian Fusulinidae of Illinois (*Bull. 67*); Occurrence and stratigraphic distribution of Paleozoic ostracodes (*Rept. Invest. 83*); Bibliographic index of new genera and families of Paleozoic ostracoda since 1934 (*Cir. 86*); Studies of the Chester series in the Illinois basin (*Cir. 91*); Lateral variations in Chester sandstones producing oil and gas in Lower Wabach River area—with special reference to New Harmony Field (*Rept. Invest. 84*); Oil and gas development in Illinois in 1941 (*Ill. Petrol, 41*); Developments in the Eastern Interior basin in 1941 (*Ill. Petrol. 42*); Secondary recovery of oil in Illinois (*Ill. Petrol. 43*); Secondary recovery can salvage stripper well reserves in Illinois (*Cir. 90*); The principle of the safety cylinder as an explosion preventer in air-gas compression (*Cir. 93*); Oil and gas drilling reports issued monthly (*mimeographed*); Correlation of domestic stoker combustion with laboratory tests and types of fuels (*Rept. Invest. 78*); Determination of ash in coals unusually high in calcite and pyrite (*Rept. Invest. 81*); Modern concepts of the physical constitution of coal and the practical significance of the physical constitution of coal in coal preparation (*Rept. Invest. 83*); Effect of oxidation on reactivity and swelling of Illinois coals (*Rept. Invest. 86*); The oxidizing power of Illinois coal (*Cir. 84*); Map of the State of Illinois showing areal type classification for wells in the Illinois basin (*Cir. 85*); Structure of Herrin No. 6 coal bed in Macoupin Co., eastern Greene and Jersey, southeastern Scott, and southern Morgan and Sangamon Co's. with discussion of oil and gas possibilities (*Cir. 88*); Feldspar in Illinois sands (*Rept. Invest. 79*); Differential thermal analysis of clay minerals and other hydrous materials (*Rept. Invest. 85*).

Water Resources.—*Projects:* Study of the stratigraphy and structure of northeastern Illinois with special reference to the ground water resources of the Joliet region; Glacial aquifers of the Peoria region; Study of well cuttings, cores and collection of subsurface data; Electrical earth resistivity surveys for subsurface water-bearing sand and gravel deposits; Geophysical logging of water wells; Cooperation with the State Water Survey Commission; Cooperation with the Illinois Water Well Drillers Assoc.

Topographic and Planimetric Mapping.—*Projects:* Quadrangles of Albion, Alto Pass, Ashkum, Camp Grove, Elmwood, Forreston, McLeansboro, Mount Carrol, Ramsey, Richview, Shelbyville, Toulon. *Publications:* Quadrangles of Greenup, Greenville, Ina, Lena, Oakland. Geologic maps of Arlington Heights, Berwyn, Blue Island, Brisbane, Calumet City, Calumet Lake, Chicago Loop, Dyer, Elmhurst, Englewood, Evanston, Frankfort, Harvey, Highland Park, Hinsdale, Jackson Park, Mokena, Palos Park, Park Ridge, River Forest, Sag Bridge, Steger, Tinley Park, Wheeling quadrangles; Oil and Gas development maps of Carlinville North, Lebanon, Litchfield, Marissa, Mattoon, Raymond, Shelbyville, Sparta, Wordern; Revised issue of oil and gas development maps of Benton, Carlyle, Greenville, McLeansboro, Mt. Carmel, Nashville, Olney, Patoka, Shawneetown, Thompsonville.

Others.—*Projects:* Economic review of mineral industries; Illinois resources for synthetic rubber. *Publications:* Illinois mineral resources mapping by the Geological Survey important in War (*Cir. 87*); The historical development of the Illinois coal industry and the State Geological Survey (*Cir. 89*).

IOWA

Basic and Economic Geology.—*Projects:* Pleistocene history of the Mississippi River; Stratigraphy of the upper Des Moines series; Stratigraphy of the lower Des Moines series; Ceramic properties of underclays. *Publications:* Illinoian and post-Illinoian Pleistocene geology of Iowa (*Vol. 38, p. 1-262*); Ceramic shales and clays of Iowa (*Vol. 38, p. 263-378*); Cambrian strata of northeastern Iowa (*Vol. 38, p. 379-422*); Mineral production for Iowa 1939-1940 (*Vol. 38, p. 423-455*); Pleistocene geology of Iowa, Part I. Pre-Illinoian geology of Iowa, Part II, Illinoian and post-Illinoian Pleistocene geology of Iowa, Part III, Bibliography of the Pleistocene geology of Iowa.

Water Resources.—*Projects:* Geology and ground water resources of Cerro Gorgo Co.; Summary of water level measurements in Iowa wells 1892-1942; Supplement to Mineral analysis of underground waters of Iowa.

KANSAS

Basic and Economic Geology.—*Projects:* Geology, oil and gas resources of Crawford Co.; Subsurface studies of Arbuckle formations of Kansas; Geology and Mineral resources of Barber Co.; Subsurface studies of St. Peter sandstone; Table of rock formations of Kansas; A study of the fusulinids of Kansas; Detailed stratigraphic sections of selected well samples from various counties; Oil and gas resources of Bourbon Co.; Oil and gas developments in western Kansas during 1943; Oil and gas fields of eastern Kansas; Detailed study of the McLouth oil and gas field, Leavenworth and Jefferson Co's; Oil and gas in Miami Co.; Stratigraphic and structural conditions in the Salina Basin; Shallow gas fields in the Kaw valley between Lawrance and Kansas City; Collection of well samples and cores; Coal resources of Kansas City group; Refractory clays of the Dakota formation of Kansas; Fillers for plastics from Kansas materials; Molding sand resources of Kansas; Chemical analysis of Kansas rocks.

Publications: Kansas oil field brines and their magnesium content (*Bull. 47 pt. 2*); A process for extracting alumina from Kansas clay (*Bull. 47 pt. 4*); Coal resources of the Douglas group in east-central Kansas

(*Bull. 46*); Exploration for oil and gas in western Kansas during 1942 (*Bull. 48*); The stratigraphy and structural development of the Forest City basin in Kansas (*Bull. 51*); Stratigraphy of the Marmaton group, Pennsylvanian in Kansas (*Bull. 52*).

Water Resources.—*Projects:* Geology and ground water resources of Equus beds area; Geology and ground water resources of Kiowa, Finney and Gray, Grand Haskell and Stevens, Scott, Jewell, Seward, and Thomas Counties; Salt water disposal in Russell County; Water supplies available in the alluvium of Kansas and Missouri rivers in Wyandotte Co.; Ground water supplies of the lower Arkansas valley; Ground water supplies in the Smoky Hill valley between Lindsborg and Junction City; Observation well program. *Publications:* Deep water well at Jayhawk Ordnance Works in Cherokee Co. Kansas (*Bull. 47 pt. 3*); Ground water supplies in the Neosho River valley in the vicinity of Parsons (*Bull. 47 pt. 5*); Geology and ground water resources of Hamilton and Kearny Co's. (*Bull. 49*); Ground water in the oil-fields areas of Russell and Ellis Co's. (*Bull. 50*).

Topographic and Planimetric Mapping.—*Projects:* Topographic mapping in Cherokee, Crawford, and Labette Co's. *Publications:* Planimetric maps of Colby quadrangle; St. Francis quadrangle.

KENTUCKY

Basic and Economic Geology.—*Projects:* Western Kentucky Devonian; Eastern Kentucky Silurian. *Publications:* Devonian subsurface strata in western Kentucky (*Bull. Am. Ass. Petroleum Geol. 1943*); Geology of the Big Sinking pool, Lee Co., Kentucky (*Bull. Am. Ass. Petroleum Geol. 1943*).

LOUISIANA

Basic and Economic Geology.—*Projects:* Geology of Red River and DeSota parishes; Webster parish; Allen and Beauregard; Study of 50 nonpiercement type domes in south Louisiana; Report on the availability of limestone at the Rayburns dome. *Publication:* Lower Eocene faunal units of Louisiana (*Bull. 23, 1943*).

Water Resources.—*Projects:* Ground water resources of Adadia and Jefferson Davis parishes. *Publication:* Records of wells and analysis of ground water in Caddo and Bossier parishes, 1941 (*La. Dept. Public Works, 1943*).

MAINE

Basic and Economic Geology.—*Projects:* Peat resources and utilization; Mica and beryl pegmatites; Limestones; Consultation service.

Others.—*Publication:* Report of the State Geologist, 1942-43.

MARYLAND

Water Resources.—*Projects:* Ground water resources of the Baltimore Industrial area; Stream gaging throughout Maryland.

Topographic and Planimetric Mapping.—Topographic maps of Cecil, Charles, Dorchester Counties reprinted.

MICHIGAN

Basic and Economic Geology.—*Projects:* Investigation of limestones in area of Straits of Mackinac (Coop. Univ. Michigan); Investigation of attitude of glacial lake beaches in Saginaw valley (Coop. Wayne Univ.); Investigation of fields and study of engineering problems of production of oil and gas (Coop. Univ. Michigan); Continued survey of iron districts (Coop. Univ. Michigan); Geologic exploration of highly mineralized areas of pre-Huronian and Huronian rocks in search for tungsten, beryllium and other rare minerals. *Publications:* Magnesium (*Mich. Cons. 1943*); Oil Man's nightmare (*Mich. Cons. 1943*); Those useless scientific facts (*Mich. Cons. 1943*); Our untouched wilderness (*Mich. Cons. 1943*); From Michigan's coral sea (Limestone) (*Mich. Cons. 1943*); Yankee springs (*Mich. Cons. 1943*); Why proration (*Mich. Cons. 1943*); Coal mining in Michigan (*Mich. Ed. Jour. 1943*).

Water Resources.—*Projects:* Stream gaging at 32 major stations and lake and stream gaging on some 60 odd lakes including outlets and local ground water tables. *Publication:* Water is a vital resource (*Mich. Cons.* 1943).

Others.—*Publications:* 575 well logs mimeographed; Oil and gas maps of Gladwin Co. (3440); Mecosta Co., Fork Twp. (3587); Missaukee Co. Aetna Twp. (3588); Missaukee Co. Enterprise Twp. (3590); Missaukee Twp. E½ (3584); Newaygo Co. Goodwell Twp. (3593); Newaygo Co. Norwich Twp. (3592); Osceola Co. Cedar Twp. (3589); Osceloa Co. Rose Lake Twp. (3594); Ottaw Co. Holland Twp. (3591); Van Buren Co. Geneva Twp. (3586); Bed rock surface contour map, Southern Peninsula (3585); Wildcat map of southern peninsula (3508); Wildcat map of southern peninsula (3524).

MINNESOTA

Basic and Economic Geology.—*Projects:* Mineral resources of Minnesota; Cuyuna range; Southern Minnesota iron; High-grade limestones of southeastern Minnesota.

Water Resources.—*Projects:* Geology and ground water resources of southern Minnesota.

MISSOURI

Basic and Economic Geology.—*Projects:* Mineral map of state; Map of Madison Co.; Oil and gas investigations in NW Missouri; Oil and gas investigation in SE Missouri; Cobalt nickel copper lead deposits, Madison Co.; Brown iron ores of SE Missouri; Barite deposits; Pyrite deposits; Clay deposits of southern Ozark region. *Publications:* Oil and gas resources of Cass and Jackson Counties (Vol. XXVII, 2d. ser.); Geology of the Fire Clay districts of east central Missouri (Vol. XXVIII, 2d. ser.)

Water Resources.—*Projects:* Stream gaging, 95 stations; Investigating current drilling in state.

Topographic and Planimetric Mapping.—*Projects:* Mapping quadrangles: Redford, Ruble, Warrenton, Vandalia, Centralia, Thayer, Cureall, West Plains, Sinkin, Corridon. *Publications:* 20 quadrangles; Magnetic map of Missouri; Gravimetric map of Missouri.

MONTANA

Basic and Economic Geology.—*Projects:* Physiography of the Gravelly Range; Study of Paleozoic limestones; Original studies of lower Cretaceous, Devonian and Ordovician strata in Montana; Geology and ore deposits of Jardine district; Platiniferous gold-copper deposits of Revais Creek district; Geology and ore deposits of Highland district; Study of Montana clays. *Publication:* Directory of Montana oil and gas industry (*Mem. 22*).

Water Resources.—*Project:* General study.

Others.—*Project:* Mineral dressing and metallurgical studies for beneficiation of Montana ores.

NEBRASKA

Basic and Economic Geology.—*Projects:* Paleontologic studies of Bryozoans; Paleontologic studies of Fusulinids; Stratigraphic studies both surface and subsurface; Study of oil fields of Richardson Co.; Study of oil possibilities of non-producing areas; Palaeocoryneae; epizoic algae of late Paleozoic age; Map of mineral resources of State. *Publications:* Geologic column of Nebraska (*Bull. 14*); Study and Revision of genus *Archimedes* Hall, (*Geol. Soc. Am. Sp. Paper, Abstract G. S. A. Bull. 1943*); Carboniferous and Permian *Ctenostomatous bryozoa* (*G. S. A. Bull. 1943*); *Hederella* from the lower and middle Pennsylvania (*Jour. Pal.* 1943); *Corynotrypa* from the upper Pennsylvanian (*Jour. Pal.* 1943); Occurrence of the Russian genus *Rhombotrypella* in Utah (*Jour. Pal.* 1943); Auloporidae and *Hederella:* Morphology and Taxonomy (*Jour. Pal.* 1943).

Water Resources.—*Projects:* Elkhorn valley region; North Loup valley region; Ground water resources of the Richardson valley; Ground water resources of the Republican valley.

Topographic and Planimetric

Mapping.—*Projects:* Topographic region map.

Others.—*Projects:* Study of mosses, lichens, and algae; Study of plant food for wildlife.

NEVADA

Basic and Economic Geology.—*Projects:* Cambrian formations in Nevada; Information service.

Others.—*Publications:* History of the Comstock Lode (*Geol. & Mni. Ser. 37*); Nevada's Metal and Mineral Production 1895-1940 (*Geol. & Min. Ser. 38*).

NEW HAMPSHIRE

Basic and Economic Geology.—*Projects:* Geologic service; Tungsten and molybdenum deposits of New Hampshire. *Publication:* Structural and economic features of some New Hampshire pegmatites (*N. H. Min. Res. Surv.* Part VII).

NEW JERSEY

Basic and Economic Geology.—*Projects:* Copper mines and mining in New Jersey; Geology and mineralogy of the manganese deposit at Clinton Point, New Jersey. *Publications:* The peats of New Jersey and their utilization Part B. The Peat resources of New Jersey (*Bul. 55*); Copper mines and mining in New Jersey (*Bull. 57*).

Water Resources.—*Projects:* Study of the ground water resources of New Jersey (continuing).

Topographic and Planimetric Mapping.—*Projects:* Atlas sheets 21, 22, 23, 27, 35, 36, Mt. Holly, Trenton East. *Publications:* Atlas sheet 31, 27.

NEW MEXICO

Basic and Economic Geology.—*Projects:* Geology of the Gran Quivira quadrangle; Character and relief of the pre-Cambrian rocks of eastern New Mexico; Geology and ore deposits of a part of the San Pedro quadrangle; Manganiferous iron ores at Boston Hill, Grant Co.

Others.—*Publication:* Selected bibliography on coal in New Mexico (*Cir. 8*).

NEW YORK

Basic and Economic Geology.—*Projects:* Geology of the Cattaraugus quadrangle; Geology of the Schunnemunk quadrangle; Geology of the Utica quadrangle; Glacial geology of the Syracuse region; Geology of the Saranac Lake quadrangle; The Clinton of western and central New York; Cephalopods of the Tully limestones; Hamilton cephalopods; Geology of the Oriskany quadrangle; Geology of Catskill and Kaaterskill quadrangles; Geology of the Coxsackie quadrangles; Geology of the Lake Sanford titaniferous iron ores. *Publication:* Geology of the Lake George region (*Mus. Handbook 19,* 1943).

Topographic and Planimetric Mapping.—*Publication:* Geology of the Lake George region. (1943).

NORTH CAROLINA

Basic and Economic Geology.—*Projects:* Iron ores of North Carolina; Copper ores of North Carolina; Manganese deposits of North Carolina; Mica deposits of North Carolina; Talc deposits of North Carolina. *Publications:* Chromite deposits of North Carolina (*Bull. 42*); Tungsten deposit near Townsville, N. C., (*Min. Invest. 1*).

Water Resources.—*Projects:* Ground water of North Carolina.

NORTH DAKOTA

Basic and Economic Geology.—*Projects:* Study of rock slide near Amidon, North Dakota; Geology of Turtle River State Park; Studies along the western shore of Lake Agassiz; Geology and ground water resources of the Emerado quadrangle; Ancient shorelines of Devils Lake; Geology and geography of North Dakota; Stratigraphy and Structure of the Linton area; Phosphate deposits of the White River formation. *Publications:* Manganese deposits of the Turtle Mts., North Dakota (*Bull. 15.* Reprint from *Econ. Geol.,* 1943); Note on gypsum crystals in Morton County (*Rock & Minerals,* 1943).

Water Resources.—*Projects:* (Cooperative projects with U. S. G. S.) Observation well program; Ground water studies of Pembina Co.; *do.,* Camp Grafton; *do.,* Devils Lake area; *do.,* Jamestown State Hospital; *do.,* Oakes area; *do.,* Fargo area.

OHIO

Basic and Economic Geology.—*Projects:* Field study of the Monongahela series in eastern Ohio; Field study of Sharon conglomerate in northeastern Ohio; Field study of iron ores of southern Ohio; Limestones of eastern Ohio. *Publication:* Geology of water.

OKLAHOMA

Basic and Economic Geology.—*Projects:* Insoluble residues of Arbuckle limestone; Bibliography of oil and gas pools covering 1942; Oil and gas in Tulsa Co.; Coal in Rogers and Wagoner Cos.; Coal in LeFlore and Haskell Cos.; Manganese in Bromide area; Zinc deposits in Arbuckle Mts.; Clay in Wichita Mts.; Dolomite in Arbuckle Mts.; Limestone in Sequoyah Co. *Publications:* Geology and chemical composition of St. Clair limestone near Marble City (*Min. Rept. 16*); Barite in Oklahoma (*Cir. 23*); New evidence of the age of the Spavinaw granite (*Amer. Assoc. Pet. Geol. Bull.,* 1943).

Water Resources.—*Projects:* Garber sandstone in Cleveland and Oklahoma Co's.; Water in alluvium of North Canadian River; Observation well program in Panhandle Co's.; Services to military establishments and municipalities. *Publications:* Geology and ground water resources of Cimarron Co. (*Bull. 64*); The chemical analysis of Oklahoma waters (*Engr. Exp. Stat. Okla. A. & M. Publ. 52*).

Others.—*Projects:* Recovery of phosphate from low-grade phosphate rock; Potash from cement plant flue dust; Mineral resources map; Removal of fluoride from drinking water in small units by use of virgin bone black; Collection of Oklahoma rocks and fossils for schools; Oklahoma mineral industries conference, an organization of mineral producers and processors; Magnesia from dolomite; Alumina from clays. *Publications: The Hopper,* a monthly mimeographed magazine for the Oklahoma mineral industries conference.

OREGON

Basic and Economic Geology.—*Projects:* Study of the beach deposits of Oregon coastal region; Compilation of areal geologic map of southwestern part of the State; Investigation of the Coos Co. coal field; Research connected with metallurgical losses in treatment of quicksilver ores; Investigation of antimony deposits; Geological mapping of the Pine quadrangle in eastern Oregon; Investigation of quicksilver deposits; Investigation of silica sand deposits with special attention to its use as steel foundry sand; Investigation of possible optical calcite deposits; Spectrographic analysis of feldspar for rare alkali contents. *Publications:* Oregon metal mines handbook, Jackson Co. (*Bull.* 14C vol. 2, sec. 2. 1943); Origin of the black sands of the coast of southwestern Oregon (*Bull.* 24, 1943); Investigation of Tyrrell manganese and other nearby *deposits* (*GMI* 10, 1943); Mineral deposits in region of Imnaha and Snake Rivers, Oregon (*GMI* 11, 1943); Progress report on quicksilver in Oregon.

Topographic and Planimetric Mapping.—*Publication:* Geologic Map of Jackson Co.

Others.—*Projects:* Research by spectrographic analysis in determining effect of microscopic amounts of elements in soils on vegetation growth; Research by spectroscopic means to determine deficiencies of certain elements in soils as related to plant growth.

PENNSYLVANIA

Basic and Economic Geology.—*Projects:* Geology and mineral resources of southeastern Clearfield Co.; Geology and mineral resources of the Smicksburg quadrangle; Individual oil sands of southwestern Pennsylvania; Large scale copies of field maps of certain quadrangles in northwestern Pennsylvania; Oil and gas of Warren and Sheffield quadrangles; Oil and gas of Kinzua quadrangle; Sand maps of each of the sands for the whole oil and gas area of Penn.; Continuation of study of deep oil and gas sands; Studies of manganese and iron deposits (cooperation with U. S. G. S.); Study of dolomites as a source of magnesium; Study of high-alumina clays as a source of aluminum; The mineral resources of Bucks County; Sand and gravel of Delaware county; Sand and gravel resources of Erie and Warren counties. *Publications:* Oil and gas geology of the Oil City quadrangle (*Bull. M. 25*); 36 maps of individual sands for six quadrangles of southwestern Pennsylvania.

Water Resources.—*Projects:* Continuation of well gaging; Intensive study of ground water resources of Philadelphia region.

Topographic and Planimetric Mapping.—*Projects:* Barclay, Leraysville, Montrose, Houtzdale quadrangles. *Publications:* 15 minute quadrangles of Benezette, Hallton, Mifflinburg, Waterville quadrangles.

Others.—*Publications:* Many waterfalls in Penn. (*Pa. Game News* 1943); Cave Exploring (*Pa. Game News* 1943); Cannel coal (*Monthly Bull.* 1943); Geologic Survey Keeping up with its market (*Monthly Bull.* 1943); Research activities of the Pa. Geol. Survey (*Monthly Bull.* 1943); Pennsylvania not in earthquake belt (*Monthly Bull.* 1943); Penn. increased by 176 square miles (*Monthly Bull.* 1943); Evolution of life on the earth as told by the rocks (*Monthly Bull.* 1943); Growth of iron oxide stalacites (*Pa. Acad. Sci. Proc.* 1943); Mining and treatment of white clay near Mt. Holly Springs, Pa. (*Trans. A.I.M.E.* 1943).

SOUTH CAROLINA

Basic and Economic Geology.—*Projects:* South Carolina Coastal Plain and Piedmont; Dam and reservoir sites.

SOUTH DAKOTA

Basic and Economic Geology.—*Projects:* Pegmatite minerals of the Black Hills; Sands and gravels of the Missouri valley. *Publications:* Preliminary report on some pegmatites of the Custer district (*R. I. 44*); Missouri valley manganese deposits between Lower Brule and DeGrey (*R. I. 46*); Geology of South Dakota, Part I. the Surface (*Bull. 13*).

Water Resources.—*Projects:* (Cooperation with the U. S. G. S.) Water level investigations in eastern S. D.; Stream gaging program.

Topographic and Planimetric Mapping.—*Publication:* Topographic map of South Dakota.

TENNESSEE

Basic and Economic Geology.—*Projects:* General study of oil and gas; Laboratory study of well cuttings and logs; Coal resources of Marion Co. and Harriman region; Review of hematite and limonite resources; Studies of high calcium limestone, dolomite, celestite, clays, phosphate.

Water Resources.—*Projects:* Study of local sources and town resources.

Others.—*Projects:* Study of vertebrate remains of the Pleistocene (?).

TEXAS

Basic and Economic Geology.—*Projects:* Geology and minerals of the Llano region; Mississippian of the Llano region; Geology of Houston Co.; Investigation of Coastal Plain geology; Geology of the Texas High Plains; Study of vertebrate fossil collection; Revision and compilation of data for new edition of map showing oil and gas fields and structure; Minerals of Trans-Pecos Texas; Mineral locality maps of Texas. *Publications:* Building stones of central Texas (*Univ. Texas Publ. 4246*); Texas mineral resources (*Univ. Texas Publ. 4301*); The Carboniferous rocks of the Llano region of central Texas (*Univ. Texas Publ. 4329*); Petroleum resources of Texas.

Topographic and Planimetric Mapping.—*Publication:* Map of serpentine area of northeastern Gillespie Co.

VIRGINIA

Basic and Economic Geology.—*Projects:* Geology and mineral resources of Clarke and Frederick Co's; Geology of Hot Springs district; Geology of Shenandoah National Park and environs; Geology and mineral resources of Abington quadrangle; Geology and mineral resources of Buena Vista quadrangle; Geology and mineral resources of Stony Man quadrangle; Geology and mineral resources of Vesuvius quadrangle; Outline of geology and mineral resources of Augusta Co.; Outline of geology and mineral resources of Smyth Co.; Geology and Mineral resources of Mt. Rogers district; Geology and mineral resources of Natural Bridge district; Bauxite in Augusta Co.; Piedmont zinc district; Limestones and dolomites of Virginia; Mica deposits; Piedmont marble belt. *Publications:* Manganese deposits in the Lick Mt. district, Wythe Co. (*Bull. 59*); Geology and mineral resources of Burke Garden quadrangle (*Bull. 60*); Geology of the Gossan Lead district (*Bull.*); Commercial granites of Virginia (*Bull.*); Manganese deposits in the Glade Mt. district (*Bull.*); Outline of geology and mineral resources of Frederick Co. (*Bull.*); Virginia's geologic resources (*Cir.*); Stratigraphy of the lower Middle Ordovician of Tazewell Co. (*Reprint 7*); Geology of the southwestern end of Walker Mt. (*Reprint 8*).

Water Resources.—*Projects:* Geology and ground water resources of the York-James peninsula. *Publications:* Chloride in ground water in the Coastal Plain of Virginia (*Bull. 58*); Deep wells in the coastal plain province of Virginia (*Reprint 6*); Geology and ground water in southeastern Virginia (*Bull.*).

Topographic and Planimetric Mapping.—*Projects:* Topographic quadrangles of Berryville, Chester, Craigsville, Drewrys Bluff, Harrisonburg, Lovington, McDowell, Mint Springs, Monterey, Mt. Jackson, Parnassus, Pounding Mill, Richlands, Rustburg, Scottsville.

Others.—*Projects:* Common rocks and minerals of Virginia; Outline of geology of Virginia; Mineral industries in Virginia; Guidebook of Lee Highway; Geology of Virginia State Parks.

WASHINGTON

Basic and Economic Geology.—*Projects:* Preliminary study of two anthracite fields; Studies of tungsten, chrome, iron, nickel, copper, lead, zinc; Study of dolomite. *Publication:* Inventory of mineral properties in Chelan Co., Washington (*Rept. Invest. 9*).

Topographic and Planimetric Mapping.—*Projects:* Work continued on two quadrangles.

WEST VIRGINIA

Basic and Economic Geology.—*Projects:* Drill cuttings from oil and gas wells; Possible increases of oil and gas from Mississippian formations; Composition and properties of petroleum; Study of oil and gas well cores for secondary recovery; Composition and properties of natural gas; Natural gas, gasoline, propanes, and butanes; Oil and gas resources of Wetzel Co.; Coal hydrogenation; Clays of West Virginia; Structural map of Oriskany sand; properties of mine roof rock and prevention of slate falls. *Publications:* Devonian System of West Virginia (Vol. XV); Summarized deep well records (Vol. XVI); Rock Salt deposits (*Bull. 7*); Deep well in Harrison Co. (*Bull. Am. Ass. Petroleum Geol.,* 1943); Deep well in Russell Co., Va. (*Bull. Am. Ass. Petroleum Geol.,* 1943); Composition and properties of Oriskany natural gas (*Ind & Eng. Chem.,* 1943); Relationship between total and net heating values of natural gas as determined with a water flow gas calorimeter (*Ind. & Eng. Chem.,* 1943).

Water Resources.—*Projects:* Ground water resources of West Virginia; Stream gaging in West Virginia.

Others.—*Projects:* Rock and mineral specimen collections for schools. *Publications:* Location of deep wells in W. Va.; Ripley, Kenna, Charleston quadrangles showing location of deep wells.

WISCONSIN

Basic and Economic Geology.—*Projects:* Investigation of mineral resources in northeastern Wisconsin; Road material survey. *Publication:* Pleistocene geology of part of northeastern Wisconsin (*Bull. G. S. A.* 1943).

Topographic and Planimetric Mapping.—*Projects:* Aerial mapping under cooperative agreement between the U. S. G. S. and the State Highway Department. State Geologists acts as advisor. *Publications:* Planimetric maps of Brantwood, Ironwood, Little Girl Point, Park Falls, Phillips.

WYOMING

Basic and Economic Geology.—*Projects:* Inventory of Wyoming mineral deposits; Basic stratigraphic studies; Basic studies in Wyoming petroleum geology; Copper Mountain tungsten deposits; Hartville iron ore deposits; Manganese and copper in northeastern Wyoming; Titaniferous magnetites of the Laramie Range; Vanadium in Wyoming crude oils; Feldspar in southeastern Wyoming; Limestone and anorthosite reserves of the Laramie Range; Kyanite, talc, graphite, and sericite of the Wheatland area. *Publication:* Wyoming vermiculite deposits (*Bull. 34*).

RECLAMATION AND IRRIGATION

By Harry W. Bashore

Commissioner of Reclamation, Department of the Interior

GENERAL

The achievements of the Bureau of Reclamation, Department of the Interior, in two major fields of war production—food and electric power—highlighted the agency's activities in 1943. Bountiful quantities of food crops, vital to fighting men and the civilians at home, came from the 4,000,000 acres of land served by its irrigation facilities. More than 12,000,000,000 kilowatt-hours of hydroelectric energy that energized important war industries, particularly aluminum and magnesium plants, were produced by giant generators in the Bureau's 30 power plants. All are located in 15 western and semi-arid states.

POWER FOR WAR

Most impressive was the agency's activity in expanding power capacity. Having given the Axis nations a seven-year start in war production, the first major task of the United States was to bring about a tremendous increase in the output of fighting weapons. For this purpose large new blocks of electric power, which drives 90 per cent of American industry, were necessary. Because of the far-sighted policy of the Department of the Interior, of which the Bureau of Reclamation is a part, in constructing Boulder, Grand Coulee, and Parker Dams in times of peace to keep ahead of the inevitable growth of the West, the Bureau was able to play a major role in fulfilling this need.

In little more than two years' time Reclamation's pre-Pearl Harbor installation was more than doubled. A million kilowatts of new power were made available. The Bureau's present capacity is more than 2,000,000 kilowatts, the largest block of power under the control of any agency, Federal or private. Most of the new machines were added two to 10 years ahead of schedule. The potential output from the new capacity is sufficient to manufacture the aluminum to build annually more than 30,000 giant four-motor bombers or to construct 30 large battleships.

By the fall of 1944, the Bureau's installed capacity will total about 2,500,000 kilowatts. But for stop-construction orders issued by the War Production Board to divert critical materials to other uses, an additional 865,000 kilowatts could have been installed by 1945-46.

Two of Reclamation's power plants are famous throughout the world. Boulder Dam (Arizona-Nevada), with an installation of about 1,000,000 kilowatts, is the largest in the world, and the plant at Grand Coulee Dam (Washington) is the fourth largest. Ultimately this plant, which harnesses the powerful Columbia River, will be the world's biggest, with a capacity of nearly 2,000,000 kilowatts.

Power is produced on Bureau of Reclamation projects as incidental to the agency's major function, the irrigation of arid and semi-arid land in the 17 western states west of or bisected by the 100th Meridian. This incidental, however, is an important one, making possible in many instances the construction of projects which otherwise would not be economically feasible. Revenues from the sale of power will pay for about 50 per cent of the over-all Reclamation program as outlined at the beginning of the war.

FOOD FOR WAR

No less important than the increase in war production which the new generating capacity on Reclamation developments made possible is the contribution which the Bureau made in alleviating the critical food emergency. Large supplies of vital foods—beans, potatoes, sugar, fruits, and other commodities equally important —were produced on the 44 projects to which the Bureau delivers a full or partial supply of water. In 1943 the 4,000,000 acres served produced enough beans to meet the annual requirements of 28,000,000 people and enough potatoes to feed 26,000,000 people for a year. Forage is also a major crop on irrigated land. The yield of this crop on Reclamation developments in 1943, when fed to beef and dairy herds, will provide a year's beef supply for 4,500,000 people and milk for nearly 4,000,000. The year's plantings of these essential foods were the highest of the Bureau's 41-year history.

Cognizant that the nation's agricultural machine would have to be materially expanded to meet wartime food requirements, the Bureau at various times outlined programs it was prepared to undertake for increasing irrigated acreage in the West through the construction of additional facilities on strategic projects. One of these programs, announced by Secretary of the Interior Harold L. Ickes, would have extended irrigation service in five years to a total of 9,000,000 acres if immediate clearance were given for critical materials, adequate funds and manpower. Other war activities, however, heavily drained the available stocks of critical materials, and the War Production Board in December 1942 felt it necessary to curtail construction already underway. Since then it has given approval for construction on projects which by 1945 will serve about 800,000 additional acres and by 1946, a total of 1,000,000.

The value of the 1943 crop will total about $300,000,000. Cumulative crop values on Reclamation developments for the 41 years of operation total nearly $3,500,000,000, more than four times the cost of the Federal investment in Federal Reclamation. Ninety-five per cent of all construction costs is reimbursable, through power revenues and repayments by water users. The remaining five per cent is allocated to non-reimbursable purposes—flood control, navigation, and contributed labor—or will be repayable by municipalities for supplemental water supplies.

INDUSTRIAL AND MUNICIPAL WATER

In yet another field, the reclamation work is important to the efficient prosecution of the war. This is in the field of providing industrial and municipal water for vital war industries and communities important in the war picture. Five operating projects supply water for these activities and additional construction on one of these and on three others under construction will expand this service in the future.

The world's largest magnesium plant near Las Vegas, Nevada, and Los Angeles and 12 other cities of the southern California metropolitan area, are served with fresh water from the Colorado River through the Boulder and Parker Dam system. The upper San Francisco Bay region and industries in Pittsburg, Calif.; military encampments near El Paso, Tex.; and the cities of Salt Lake, Provo, and Ogden, Ut., near which vital industries and other war activities are situated, also are dependent on irrigation reservoirs for municipal and industrial water supplies.

CONSTRUCTION ACTIVITIES

Construction activities on Bureau projects were severely curtailed during 1943 as a result of the War Production Board's stop-construction order issued in December 1942. The Board halted all construction except power installations on five projects; namely, Parker Dam, Boulder Dam, Columbia Basin (Grand Coulee Dam), Colorado-Big Thompson (Green Mountain Dam), and Central Valley (Shasta Dam and a 100-mile transmission line).

The Bureau appealed to the Facility Review Committee of the WPB and as a result additional work was permitted to proceed immediately under specified limitations on 11 projects. As food production became increasingly important, additional clearances were granted in 1943. On three projects, work is being provided for Japanese evacuated from the Pacific Coast and on three others for conscientious objectors stationed in Civilian Public Service Camps.

SHASTA DAM

Shasta Dam on the Sacramento River, dominant structure of the vast Central Valley project (California) and one of the three largest concrete dams in the world, was more than 90 per cent completed at the end of 1943. Ultimately it will be higher than Grand Coulee and more massive than Boulder. It will contain 5,556,667 cubic yards of concrete. Two of five generators, each rated at more than 70,000 kilowatts, are being installed and will be ready to serve war industries in northern California by March 1944.

NEW POWER PLANTS

The Bureau of Reclamation put two power plants in operation during the year 1943—one at Green Mountain Dam of the Colorado-Big Thompson project (Colorado), which has an installed rating of more than 20,000 kilowatts, and the other at Parker Dam on the Colorado River (Arizona-California), with an installation of more than 115,000 kilowatts. Both are serving important war loads.

CONTINENTAL DIVIDE TUNNEL

Excavation of the 13.1 mile Continental Divide Tunnel of the Colorado-Big Thompson project, which was halted in December 1942 by the War Production Board, was resumed in the fall of 1943. This tunnel will divert water from the west side of the Rocky Mountains to the east side to supplement the water supply for 615,000 acres now inadequately served.

Since 1902 the Bureau has constructed 167 dams and 30 power plants on 52 irrigation and multiple-purpose developments. In addition the Bureau built 5,822 miles of transmission lines, 5,106 miles of ditches and drains, 210,487 canal structures, 14,357 bridges, 23,401 culverts, 6,498 flumes, 381 tunnels totaling 108 miles in length, 2,290 miles of pipe, and 4,208 miles of road. These structures required the excavation of 611,560,346 cubic yards of earth and rock and the placement of 33,203,253 cubic yards of concrete. In this concrete were 37,310,546 barrels of cement.

POST-WAR PLANNING

Since 1941 the project planning activities of the Bureau of Reclamation have been geared to war and post-war considerations. These investigations and studies of the land and water resources of the 17 western states pave the way for the development of irrigation and multiple-purpose projects, including power installations. Studies cover entire river basins and sub-basins, and also individual projects. Investigation of the upper Missouri River is particularly important at this time. The Bureau is prepared to integrate the report it is preparing with one made by the Corps of Engineers, War Department, for a comprehensive development of this great area. From 150 to 200 irrigation and multiple-purpose projects and 40 to 50 basins and sub-basins are actively under investigation in the West.

This work is vital in preparing for the post-war readjustment of millions of returning servicemen and demobilized war workers. On new projects found feasible, on those authorized for construction, and on others where expansion is possible, the Bureau of Reclamation can, if Congress is willing and makes available the necessary funds, to provide employment for 480,000 men for three years. About 225,000 of these workers would be employed at the construction sites and 255,000 in plants and factories providing materials needed in the construction.

This preliminary postwar Reclamation program would bring 6,000,000 additional acres of land under irrigation and provide farms for 125,000 men and their families. On areas where an inadequate water supply now prevents maximum crop production, 40,000 new farms could be created. This supplemental service would also provide greater security to more than 100,000 families on established irrigation projects.

NEW RECLAMATION LEGISLATION

Three major pieces of legislation affecting irrigation development in the West became law in 1943. The Columbia Basin Act, which will govern the development and settlement of the 1,200,000-acre Columbia Basin project in Washington, to be watered through facilities to be provided at Grand Coulee Dam, was signed by the President on March 10, 1943.

On May 26, 1943, Congress gave its consent to a compact entered into by Colorado, Kansas, and Nebraska, allocating the waters of the Republican River on an equitable basis.

The Water Conservation and Utilization Act, which provided for the Works Projects Administration and the Civilian Conservation Corps to provide labor for the construction of projects designed to rehabilitate existing agricultural areas in the Great Plains and other drought-stricken areas, was amended by Congress in the summer of 1943. Amendments approved by the President permit the expenditure for project construction of appropriated funds in lieu of the contributions of labor and materials formerly made by the WPA and CCC which were disbanded in 1942.

PUBLIC LANDS

By Fred W. Johnson

Commissioner, General Land Office, Department of the Interior

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GENERAL LAND OFFICE

Fuller utilization for war purposes of the natural resources of the Nation's public domain was the prime objective of the General Land Office, United States Department of the Interior, during the fiscal year 1943. At the same time, the General Land Office, entering upon its 131st year as the Federal agency charged with the survey and disposal of the public domain and the management of many of its resources, tackled the problems of effective post-war use of the public lands under its administration.

Tracts of the public domain with a total area of 15,270,000 acres have been provided for troop training, aerial bombing and gunnery practice, and other military purposes, and almost 71,000,000 additional acres have been segregated to expand the production of the strategic war minerals.

Valuable timber supplies were again made available to war industries from 2,500,000 acres of forest lands in western Oregon, and important contributions to the meat supply for combat troops and civilians were made by leasing operations and range development work upon the grazing lands under General Land Office jurisdiction.

At the same time, the Office carried forward other important, though less spectacular, operations involving the identification, recordation, and administration of the public lands in accordance with more than 5,000 public land laws.

The General Land Office in 1943 continued to be a profit-making agency of the Government. Cash receipts from its activities totalled $9,758,066, as against expenditures of $2,304,416, a ratio of approximately $4.25 in return for each dollar of expenditures. Total cash receipts were the greatest since 1926.

HISTORIC LAND USE POLICY

The use of the public lands as an auxiliary weapon in time of war, as well as a potent factor in national development in time of peace, conforms to a traditional policy of the United States as old as the Republic itself. After the Revolutionary War, cash sales of public lands helped meet the cost of war, and large tracts, in parcels ranging from 100 acres to private soldiers to 1,100 acres to major generals, were granted as bounty payments for military service. Bounties were also given in recognition of military service after the War of 1812, the war with Mexico, and the Indian wars. Altogether, over 60,000,000 acres of the public domain were granted to veterans of these wars.

Although the enactment of the first homestead law in 1862 terminated the era of military land bounty payments, certain settlement privileges were extended to veterans of the Civil War. These privileges were subsequently granted to veterans of the Indian wars, the war with Spain, the Philippine Insurrection, the Mexican border operations, and of the first World War.

CONSERVATION IN THE WAR PROGRAM

Fortified by almost a decade of intensified national conservation, during which the natural resources on the public lands were guarded against wasteful dissipation, the United States at the outbreak of the present global war found itself able to contribute more from its public domain treasure house than ever before in history. The public domain has been mustered into active service within a conservation framework designed to prevent unnecessary use of resources needed for the welfare of future generations.

LAND FOR MILITARY USE

The most immediate contribution from the public domain was the segregation of areas for training soldiers and for the many other purposes of modern warfare. Under a program begun long before Pearl Harbor brought formal entrance of the United States into the current war, more than 15,270,000 acres have to date been set aside for many forms of combat and defense training and for other military uses. Including many tracts the location of which is still a military secret, a total of 4,703,762 acres was withdrawn for military purposes during the 1943 fiscal year. In addition, smaller portions of the public domain were made available as sites for defense plants and for housing facilities for war workers.

PUBLIC LAND MINERAL OUTPUT

Mineral resources from the public lands helped swell the volume of fuel and munitions available to prosecute the war in 1943. The amount of gasoline and butane produced under leases administered by the General Land Office increased about one-third over 1942, while the production of oil also was greater than in the previous year.

Total cash returns to the United States in 1943 from the Mineral Leasing Act were the highest in 17 years, and receipts from all mineral leasing operations reached $7,790,473, an increase of $397,427.

Other contributions to the supply of war minerals included the withdrawal of more than 70,800,000 acres in connection with the development of stock piles of strategic minerals, and the granting of special licenses to defense plants for the extraction of strategic minerals from 43,000 acres of public lands.

PUBLIC LANDS TIMBER

War orders for specialized types of forest products ranging from heavy timber for piling and shipyard construction to wood for airplane manufacture were filled in 1943 from the 2,500,000 acres of Oregon and California revested grant lands in Oregon which are under the jurisdiction of the General Land Office. Timber sales from these areas totalled 485,029,000 board feet, valued at $1,915,964.

The revested forest lands are administered on a sustained-yield basis which provides, through reforestation and supervised timber cutting, for a continuous supply of timber for the support of the communities and industries of the region. The program also calls for financial assistance to the 18 Oregon counties in which the lands are located by payment of a large part of the proceeds from the timber sales. Under this arrangement, approximately $976,000 will be paid to these counties from the returns on 1943 sales. Part of this payment constitutes final liquidation of $2,000,000 due the counties under earlier legislation involving the grant lands. Original estimates called for the liquidation of this debt over a ten-year period, but so successful have the financial operations been that the indebtedness has been wiped out four years ahead of schedule. Eventually the Oregon counties will receive 75 per cent of the proceeds from timber sales in the area. Costs of administering these lands continue to be less than 25 per cent of gross receipts.

FOOD FROM THE PUBLIC LANDS

The public domain during 1943 supported livestock upon 11,984,939 acres of land under General Land Office jurisdiction in the states and in Alaska. These operations involved 10,151 leases requiring an annual rental of $216,485. Of the total area leased, 1,168,954 acres were in Alaska.

Although handicapped by a shortage of man power and wartime priority restrictions on materials, the General Land Office worked on 139 range development projects in 10 western states, including such range improvements as fences, springs, wells and other stock-watering facilities, and including soil and moisture conservation activities. Conducted in cooperation with local stockmen, the states and counties, and with other Federal agencies, the development program during 1943 brought substantial benefit to 1,736,917 acres of land.

LAND CLASSIFICATION AND RESEARCH

One of the features of national conservation policy which contributed substantially to the availability of natural resources at the outbreak of the war was the provision for the classification of tracts of land according to their best use-capabilities prior to their disposal or segregation. The identification, examination, and classification of the portions of the public lands which are important elements of the nation's military and economic structure thus form a significant part of General Land Office activities and are essential to adequate public land administration in war and peace.

Land classification work closely related to the war during the year included assistance to war agencies in connection with land acquisitions and the making and adjustment of withdrawals of public lands for military uses and for air-navigation sites.

In addition to research and analytical operations carried on in response to demands from the Congress which is conducting a study of public land administration problems, the office rendered assistance to other governmental agencies in connection with land management aspects of their work. Also, research studies were begun on post-war problems of land administration and disposal.

CADASTRAL ENGINEERING

Because no tract of land legally may be disposed of until its location and boundaries have been accurately determined and permanently recorded, the Government's surveys have always been fundamental to negotiations for the public lands. The system of public land surveys authorized by the Continental Congress was transferred to the General Land Office in 1812, and since then maintenance of a cadastral engineering service has been its continuing responsibility.

During the 1943 fiscal year, 14 separate agencies of the Federal Government called upon the General Land Office for field surveys of lands under their jurisdiction, and a total of 2,026,119 acres was surveyed in the field in addition to surveys not measurable on a quantitative basis.

DEVELOPMENTS IN ALASKA

The problem of Alaskan development presents both an immeasurable opportunity for the orderly advancement of civilization along the nation's only remaining pioneer frontier, and a challenge to use the highest possible standards of public land administration in such development. Because the Territory's total land area of 365,481,600 acres consists almost in its entirety of public domain, less than 1 per cent of which is surveyed, the General Land Office occupies a position of direct responsibility for the proper solution of this problem.

The wider development of Alaska will of necessity carry with it broadened responsibilities for fire prevention and suppression on the far flung areas of the public domain in the Territory, a task already undertaken by the General Land Office. The magnitude of the fire protection problem in Alaska confronting the General Land Office is indicated by the fact that the area under its supervision equals the combined areas of the states north of the Mason-Dixon line and the Ohio River and east of the Mississippi, and is about 60 per cent larger than all the Federal holdings in National Forests in continental United States. Such development will also carry with it broader responsibilities with respect to many other aspects of land management and to the wise disposal and use of the public lands.

PUBLIC LANDS AND SURVEYS

Of the total land area of 1,442,267,520 acres in the public land states and of 365,481,600 acres in the Territory of Alaska, there had been surveyed at the close of the 1943 fiscal year 1,322,903,345 acres in the states and 2,321,304 acres in Alaska. This leaves 119,364,175 acres still to be surveyed by the General Land Office in the states and 363,160,296 acres in Alaska.

As of June 30, 1943, the area of public lands remaining in Federal ownership, including Indian reservations, amounted to about 400,000,000 acres in the public land states and about 365,000,000 acres in Alaska. Of the total of 765,000,000 acres, 394,000,000 acres were vacant and unreserved, as follows: 38,000,000 acres in the states outside Federal grazing districts; 131,000,000 acres within such districts, and 225,000,000 acres in

ACREAGE OF LANDS PATENTED WITH MINERALS RESERVED TO THE UNITED STATES

as of June 30, 1943

Type of Mineral Reservation	Patented During Fiscal Year 1943	Total Patented Through June 1943
Reservation of all minerals:		
Under stockraising act	[1]98,825	33,532,155
Under other acts	311,755	2,209,269
Total	410,580	35,741,424
Reservation of specific minerals:		
Coal	8,506	10,854,583
Others[2]	49,989	1,909,711
Total	58,495	12,764,294
GRAND TOTAL	469,075	48,505,718

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[1] Includes 2 Indian trust patents (166 acres).

[2] Includes coal reserved in combination with other minerals.

Alaska. The remainder, about 371,000,000 acres, including millions of acres temporarily withdrawn for war purposes, was in various states of reservation.

The total acreage patented with minerals reserved to the United States, increased during the year to 48,505,718 acres, as shown by the preceding table.

LEASES AND PERMITS

During the year an additional area of 1,044,298 acres was brought under lease, including mineral licenses and permits, making a total of 15,319,561 acres under lease at the end of the year. The types of leases in force as of June 30, 1943, are shown by the following tables:

MINERAL LEASES, PERMITS, AND LICENSES OUTSTANDING

as of June 30, 1943

Mineral	Leases		Permits		Licenses		Total	
	Number	Acres	Number	Acres	Number	Acres	Number	Acres
Oil and gas:								
Producing	1,492	689,654.93	—	—	—	—	1,492	689,654.93
Prospecting	2,040	2,014,575.26	—	—	—	—	2,040	2,014,575.26
Total	3,532	2,704,230.19	—	—	—	—	3,532	2,704,230.19
Coal	363	74,386.08	138	108,780.66	101	3,363.20	602	186,529.94
Phosphate	9	6,464.24	—	—	—	—	9	6,464.24
Potash	19	44,532.10	1	2,538.68	—	—	20	47,070.78
Sodium	4	1,872.88	124	203,192.93	—	—	128	205,065.81
GRAND TOTAL	3,927	2,831,485.49	263	314,512.27	101	3,363.20	4,291	3,149,360.96

LEASES OTHER THAN MINERAL LEASES OUTSTANDING

as of June 30, 1943

Type of Lease	Number	Acres	Annual Rental
Aviation	43	28,192.20	$ 535.00
5-acre tracts	300	1,500.00	[1]1,490.00
Fur farm (Alaska)	21	136,080.00	850.00
Grazing (Alaska)	9	1,168,953.93	1,269.35
Grazing (O & C)	158	268,678.86	4,735.60
Grazing (Taylor Act, Sec. 15)	9,984	10,547,306.22	210,480.07
Recreational	19	18,895.82	[2]1,366.63
Water well	11	440.00	460.50
Others	3	153.01	10.00
Total	10,548	12,170,200.04	221,197.15

[1] Does not include rentals of 2 business site leases, the rentals of which are based on gross receipts.

[2] Does not include rental of 1 lease, the rental of which is based on receipts.

HOMESTEADS, SALES, AND OTHER ENTRIES

Continued decrease in the area of public lands entered and patented is shown by the tables which follow. The totals given indicate a decrease from the previous year of 53 per cent in the area represented by original entries, of 33 per cent in the area embraced in entries finally approved, and of 40 per cent in the area patented and certified. The number of entries involved, however, declined only 32 per cent for original entries and only 1 per cent for final entries. The small decrease in final entries as compared to original entries reflects the increasing relative importance of cash entries, most of which are not reported as original entries when initiated. The number of

PUBLIC LANDS

ORIGINAL ENTRIES AND SELECTIONS[1]

fiscal year 1943

Type of Entry or Selection	Public Lands		Ceded Indian Lands		Total	
	No.	Acres	No.	Acres	No.	Acres
Homestead entries:						
Stockraising	14	6,944.76	—	—	14	6,944.76
Enlarged	8	2,080.45	1	200.00	9	2,280.45
Reclamation	37	4,707.52	(2)	100.00	37	4,807.52
Forest	1	56.69	—	—	1	56.69
Sec. 2289 R. S., et al	151	15,169.34	1	40.00	152	15,209.34
Total homestead entries	211	28,958.76	2	340.00	213	29,298.76
Other entries and selections:						
Desert land entries	11	1,798.90	—	—	11	1,798.90
State selections	57	24,914.70	—	—	57	24,914.70
Timber and stone applications	4	359.80	—	—	4	359.80
Mineral applications and adverse claims	85	6,493.54	—	—	85	6,493.54
Town lots[3]	19	(4)	—	—	19	—
Lieu selections	2	241.21	—	—	2	241.21
Total other entries & selections	178	33,808.15	—	—	178	33,808.15
GRAND TOTAL	389	62,766.91	2	340.00	391	63,106.91

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[1] An original entry or selection is one made in pursuance of an act of the Congress which prescribes the terms and conditions under which patent may be issued or other evidence of title granted. An original entry becomes a final entry upon compliance by the entryman with further requirements of the law, such as residence or additional payment, and upon the issuance of a final certificate. A state selection becomes final upon certification by the Commissioner of the General Land Office.

[2] Two entries amended.

[3] Town lots upon which only part payment was made.

[4] Area not tabulated.

FINAL ENTRIES[1]

fiscal year 1943

Type of Entry	Public Lands		Ceded Indian Lands		Total	
	Number	Acres	Number	Acres	Number	Acres
Homestead entries:						
Stockraising	140	70,848.40	14	6,568.67	154	77,417.07
Enlarged	12	3,044.73	6	1,042.23	18	4,086.96
Reclamation	159	16,705.80	24	2,372.94	183	19,078.74
Forest	6	367.08	—	—	6	367.08
Commuted	4	520.00	14	920.00	18	1,440.00
Sec. 2289 R. S., et al	101	10,563.18	19	1,528.51	120	12,091.69
Total homestead entries	422	102,049.19	77	12,432.35	499	114,481.54
Other entries:						
Desert land entries	39	4,988.53	—	—	39	4,988.53
Public auction sales[2]	256	22,025.46	—	—	256	22,025.46
Timber and stone entries	4	359.80	—	—	4	359.80
Mineral entries	93	7,520.96	—	—	93	7,520.96
Townlots	245	(3)	24	(3)	269	—
Miscellaneous cash entries	146	9,511.26	—	—	146	9,511.26
Others	69	8,687.76	1	[4]71.50	70	8,759.26
Total other entries	852	53,093.77	25	71.50	877	53,165.27
GRAND TOTAL	1,274	155,142.96	102	12,503.85	1,376	167,646.81

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[1] A final entry is one upon which final certificate has been issued showing that the law has been complied with and that in the absence of irregularity, the entryman or claimant is entitled to a patent. If the requirements of the law have been met, the equitable title to the land passes to the claimant upon the issuance of the final certificate.

[2] Isolated tracts.

[3] Area not tabulated.

[4] Indian tribal lands.

PATENTS AND CERTIFICATIONS[1]

fiscal year 1943

Type of Patent	Public Lands		Ceded Indian Lands		Total	
	Number	Acres	Number	Acres	Number	Acres
Homestead patents:						
Stockraising	186	97,329.58	6	1,329.70	192	98,659.28
Enlarged	21	6,233.39	3	240.00	24	6,473.39
Reclamation	213	21,343.90	9	835.17	222	22,179.07
Forest	7	521.91	—	—	7	521.91
Commuted	5	600.70	—	—	5	600.70
Sec. 2289 R. S., et al	121	13,259.98	4	240.00	125	13,499.98
Total homestead patents	553	139,289.46	22	2,644.87	575	141,934.33
Other patents:						
Desert land	45	5,045.49	—	—	45	5,045.49
Public auction[2]	289	24,896.92	—	—	289	24,896.92
Timber and stone	5	397.09	—	—	5	397.09
Mineral	170	14,026.92	—	—	170	14,026.92
Indian	12	369.92	627	[3]62,951.65	639	63,321.57
Miscellaneous cash sale	290	16,797.67	—	—	290	16,797.67
Exchange	191	233,491.15	—	—	191	233,491.15
State grants	22	110,108.83	—	—	22	110,108.83
Curative and supplemental	518	(4)	—	—	518	—
Other	74	4,358.77	2	[3]71.72	76	4,430.49
Total other patents	1,616	409,492.76	629	63,023.37	2,245	472,516.13
Total all patents	2,169	548,782.22	651	65,668.24	2,820	614,450.46
Certified to States	—	22,455.41	—	—	—	22,455.41
GRAND TOTAL	2,169	571,237.63	651	65,668.24	2,820	636,905.87

[1] Where upon final examination it is found that an entry or selection is in proper form and that the law has been complied with, a patent conveying the legal title to the claimant is issued. In the case of certain State selections, the legal title is conveyed upon approval thereof by the Secretary of the Interior and certification by the Commissioner of the General Land Office.

[2] Isolated tracts.

[3] Indian tribal lands.

[4] Acreage not counted because previously reported.

patents issued increased 10 per cent over the previous year, indicating the increasing volume of work involved in the issuance of special types of patents.

LAND GRANTS

Pursuant to public policy under which more than 300,000,000 acres of public lands, in addition to rights-of-way, have been granted to local governments and corporations for internal improvements and other public purposes, the General Land Office during the year conveyed title to 134,722 acres of grant lands. Grants to states included 15,788 acres of indemnity school land selections, 109,572 acres of state park selections, 6,508 acres selected for miners' hospitals, and small amounts of other types of selections. Under the Transportation Act of 1940, which provides for the issuance of patents to railroads to cover grant lands sold by them to innocent purchasers for value prior to Sept. 18, 1940, 2,157 acres were patented to the Northern Pacific Railroad. In addition to these grants, 13 patents were issued to states to give them additional evidence of title to 5,291 acres of previously granted school sections.

Of the 336 applications for rights-of-way for railroads, irrigation, telephone and telegraph lines, public roads, pipelines, and other purposes approved during the year, 163 involved permits or easements with an annual rental of $3,690 and 12 were temporary rights-of-way over Oregon and California revested grant lands.

LAND EXCHANGES

Exchanges of land with private owners resulted in the addition of 79,910 acres to grazing districts in exchange for 22,415 acres of Federal lands; 2,773 acres to a migratory bird refuge in exchange for 3,121 acres; 721 acres to Indian reservations in exchange for 680 acres; and 223,795 acres to National Forests in exchange for 24,202 acres of land, plus sufficient timber to equalize the values involved. Exchanges of lands with states under the Taylor Grazing Act made on an equal area basis amounted to 183,073 acres.

RECEIPTS AND EXPENDITURES

Receipts during the year totalled $9,758,066, the highest since 1926, while expenditures from appropriations amount to $2,304,416. Rentals, royalties, and bonuses from mineral leases and permits accounted for 80 per cent of the total receipts and sales of timber from Oregon and California revested grant lands for an additional 16 per cent. Fees and commissions and sales of public and Indian lands which prior to the Mineral Leasing Act constituted the bulk of receipts from the public lands, amounted to less than $200,000.

Pursuant to the provisions of various laws, 40 per cent of the total receipts will be distributed to the various states and counties and 43 per cent will be credited to the Reclamation Fund. Indian trust funds will be credited with $8,901.

The following table shows the receipts earned during the year, by sources and by Treasury accounts:

DISPOSITION OF RECEIPTS OF THE GENERAL LAND OFFICE[1]

fiscal year 1943

Source of Receipts	Covered in the Treasury Earmarked For				
	General Fund	Reclamation Fund	States and Counties	Indian Trust Funds	Total
Sales of public lands	$26,251.48	$97,654.20	$4,493.99	—	$128,399.67
Fees and commissions	11,290.77	37,664.06	—	—	48,954.83
Mineral leases and permits:					
Mineral Leasing Act	717,612.80	3,767,467.18	2,691,047.98	—	7,176,127.96
Red River oil and gas lands	—	—	2,488.13	$4,146.87	6,635.00
Potash	42,993.55	[2]269,362.38	161,225.83	—	473,581.76
Other	[3]134,128.22	—	—	—	134,128.22
Total mineral	894,734.57	4,036,829.56	2,854,761.94	4,146.87	7,790,472.94
Oregon and California grant lands	410,303.40	—	[4]950,423.47	—	1,360,726.87
Coos Bay grant lands	130,361.51	—	[5]26,000.00	—	156,361.51
Taylor Act grazing leases	48,477.82	[6]48,477.82	96,955.64	—	193,911.28
Rights-of-way leases	30,044.39	—	—	—	30,044.39
Sales of Reclamation town lots	—	6,758.17	—	—	6,758.17
Sales and lease of Indian lands	—	—	—	4,754.12	4,754.12
Copying fees	16,923.65	—	—	—	16,923.65
Miscellaneous	20,759.05	—	—	—	20,759.05
GRAND TOTAL	1,589,146.64	4,227,383.81	3,932,635.04	8,900.99	9,758,066.48

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[1] Before final settlement of all accounts by the General Accounting Office.

[2] Includes $43,646.22 collected in California under act of Oct. 2, 1917 (40 Stat. 297).

[3] Includes $17,076.59 collected in Wyoming under act of June 26, 1926 (44 Stat. 1621), $10,107.15 collected in Alaska, and $106,944.48 collected in California under Executive Order No. 9087 dated March 5, 1942.

[4] Includes $270,060.04 as final payment under act of July 13, 1926 (44 Stat. 915).

[5] Estimated.

[6] Range Improvement Fund.

VIII. PUBLIC RESOURCES AND UTILITIES

PUBLIC UTILITIES

By H. M. Olmsted
Public Utility Engineer-Accountant

GENERAL

Public utilities in the second year of war showed even greater intensity of utilization than in 1942, despite restrictions on domestic non-essential types of use and on materials and manpower for plant expansion and increased service. Regulatory activities, both of usual and emergency character, continued at a somewhat slackened pace, such functions being also handicapped by personnel problems and by attacks from some utility companies and their defenders. Conflicts between state and Federal jurisdiction occasionally arose. Little change in ownership, as between public and private agencies, occurred. Utility profits continued to increase, but taxes have taken a large part of these, and in a substantial number of instances the net income after taxes was less than in 1942.

ELECTRIC LIGHT AND POWER

The weekly output of electrical energy reached a new high in December, 1943, running about one-sixth greater than the previous December and approximately 55 per cent above the average for 1935-39 (after adjustment for seasonal variations), according to the Edison Electric Institute. The greatest increase in production occurred in the Pacific states, which ran far ahead of the southeastern and mid-Atlantic states, where the next highest rate of increase over 1942 was found. New England and the west central states showed the least increase.

The number of customers of the electric light and power industry increased slightly; the total for Oct. 31, 1943, was 32,421,795, a 12-month increase of about one-half of one per cent, according to Edison Electric Institute figures. In October, revenues were running about eight per cent above the previous year.

The total output in 1943 was estimated in *The New York Times* on Jan. 3, 1944, at 221,000,000,000 kilowatt-hours, a 17 per cent increase over 1942 and a 75 per cent increase over 1939. Canada and the United States together were stated to have produced 312,000,000,000 kwh in 1943, or about one-half of the entire world production. An important element in the increase is the metallurgical load, particularly as to aluminum, the production of which is reported to be seven times as great as before this war.

War-time oversight of electrical and other utility projects has been vested in the Office of War Utilities, with jurisdiction over determination and allocation of equipment, materials, and supplies.

ELECTRICAL OUTPUT CAPACITY

Electrical production facilities of public utility plants, both privately and publicly owned, were estimated by the Edison Electric Institute at 49,442,000 kilowatts of installed capacity at the end of 1943, with peak demand of nearly 41,000,000 kilowatts. The availability of the installed capacity is dependent on rainfall and water storage in the case of water power, and might be diminished by coal shortage in the case of steam power, as well as by breakdowns and normal overhauling of equipment. An increase of 7,500,000 kilowatts of capacity in 1943 had been hoped for, but much of this was delayed by increased demands of war industries for materials and manpower. The industry drew upon dwindling stocks of coal and loaded generators and transmission lines beyond ordinary limits, water storage being meanwhile conserved, relatively, for emergencies. However, toward the end of the year, J. A. Krug, head of the Office of War Utilities, declared that capacity then installed and under construction was ample for expected needs, it being necessary, nevertheless, to conserve electrical energy in view of demands for fuel, materials, manpower, and transportation.

In July the OWU announced an approved program of new capacity for 1945 operation, totaling only about 500,000 kilowatts, including a 108,000 kw unit for the Grand Coulee waterpower plant, 80,000 to 120,000 kw of additional capacity for the Tennessee Valley Authority, and the remainder for municipal and private steam plants. Where either steam or water power were equally feasible the latter was favored because of anticipated fuel difficulties. However, five steam installations totaling 100,000 kw, under this program, were later scheduled for immediate beginning of manufacture and for placing in operation at dates ranging from May, 1944 to the latter part of the year, to eliminate local power shortages.

In December, 1943, the tenth and final generator at the Bonneville Dam on the Columbia River was placed in operation, raising that plant's capacity to 516,400 kw. The Bonneville-Grand Coulee network of transmission lines, in Washington and Oregon, totals 2,524 miles; 1,056 miles are 230,000-volt lines. Total substation transformer capacity of this huge Federal power project is approximately 2,500,000 kilovolt-amperes.

CONSERVATION AND WARTIME RESTRICTIONS

Relaxation of some wartime restrictions occurred before the end of 1943. Effective Nov. 1 the dim-out that had been imposed along the Atlantic, Pacific, and Gulf coasts was lifted because of the success of antisubmarine operations. However, at the urging of the OWU, the War and Navy Departments, in announcing the cancellation of the dim-out, warned that there should be no relaxation of the voluntary movement for conservation of electric light; and the War Production Board, the Petroleum Administration for War, the Solid Fuels Administration, and the Office of Defense Transportation, which had been cooperating in the drive for voluntary conservation, joined in the warning.

The dim-out, a war precaution for protection of shipping in coastal waters, had serious disadvantages from the standpoint of street traffic safety and crime, and emphasized the normal importance of adequate street and highway lighting. Comprehensive data are not available, but a report of the Connecticut Department of Motor Vehicles, comparing accident experience for the first half of 1943 with the first half of 1942, before the dim-out, showed increases in night traffic accidents of 52 per cent in the urban area and 47 per cent in the rural area, while daytime accidents decreased slightly. Fatalities at night increased 43 per cent in both areas, while daytime fatalities declined 16 per cent.

Later in the year the OWU amended the voluntary conservation plan to permit indoor and outdoor sign lighting for advertising and display purposes from dusk to 10 p.m. It had been found difficult to obtain sufficiently wide cooperation as to this restriction, and it was deemed more important to strengthen cooperation in minimizing daytime indulgence in such lighting.

SAVINGS IN MATERIALS AND SUPPLIES

Toward the end of the year the OWU procedure for materials priorities was somewhat simplified and liberalized. Occupational deferments from military service, for a list of critical occupations, 27 of which come in the utility field, were somewhat facilitated.

The OWU announced in November that huge savings of scarce materials have been effected under the orders of the WPB. The current rate of consumption of materials for maintenance, repairs and operation and for minor construction by public utilities was reported to be half as much as in 1940, and only 55 per cent of the material used in 1943 was being purchased from manufacturers and distributors, the rest being from salvage and existing inventories of materials and supplies.

ELECTRIC UTILITY REVENUES

At hearings before the Senate Finance Committee early in December, Charles W. Kellogg, president of the Edison Electric Institute, estimated that the gross revenue of the electric utility in 1943 would exceed that for 1942 by about $200,000,000, chiefly because of the war load. He also estimated that proposed tax legislation would decrease net income to a figure $2,000,000 below 1942. However, 12 months' figures for net income, up to October 31, showed many companies, particularly in the areas of greatly increased industrial activities, with net incomes substantially above the preceding 12 months.

FEDERAL POWER COMMISSION

At the annual convention of the National Association of Railroad and Utilities Commissioners in September resentment against the Federal Power Commission was vigorously expressed and aroused sharp debate. The opposition commissioners felt that the FPC had encroached upon states' rights, and considered that Federal legislation was called for, especially since the 6-to-3 decision of the Supreme Court in May upholding the jurisdiction of the FPC over certain financial transactions of the Jersey Central Power & Light Co., which owns no property outside of New Jersey but sells some of its production to the Public Service Electric & Gas Co., which in turn sells to the Staten Island Edison Corporation, of New York. The opposition to the FPC crystallized into a draft of a bill for presentation to Congress, restricting the jurisdiction of the FPC, in the case of transmission and sale of electricity, to such utilities as sell electric energy at wholesale in interstate commerce or transmit it in interstate commerce for compensation, excluding emergency service and the exchange of energy at cost. Despite warnings that such legislation would leave an unregulated gap between state and Federal jurisdictions, representatives of 25 state commissions voted for it, while the commissions of ten states, the District of Columbia and Puerto Rico, and three Federal commissions voted against it, including the New Jersey commission, whose chairman asserted that the court decision referred to did not lessen the jurisdiction of his commission.

In November the FPC published its sixth annual report on Statistics of Electric Utilities in the United States, which, besides covering the year 1942, included for the first time composite five-year (1937-42) financial statements for concerns representing over 95 per cent of the privately owned electric utility industry. The five-year data were also summarized in a ten-page report, which showed an increase of 17 per cent in generating capacity and 52 per cent in electric sales, with an increase of 7 per cent, or about $1,000,000,000, in the plant accounts. The latter relatively small increase reflects the elimination of former write-ups and other inflation, and the sales of certain utility properties to public authorities. The inflation eliminated by direction or approval of the FPC aggregated $204,000,000. By the end of 1943 the amounts to be written off by orders of the Commission totaled $372,000,000 for some 66 companies with a book total of $2,300,000,000 for plant accounts. Other substantial amounts have been eliminated by action of state commissions, notably that of New York. Depreciation reserves increased nearly 55 per cent in the five years. Total plant accounts less depreciation reserves showed an increase of only 1½ per cent.

SECURITIES AND EXCHANGE COMMISSION

During 1943 the Securities and Exchange Commission made long strides in the enforcement of the Holding Company Act of 1935, accomplishing more than in several of the prior, more preliminary years. A great deal still remains to be done, however. This act, designed to provide increased protection for electric and gas utility investors and consumers, provides for geographic and corporate simplification of holding-company systems, and equitable distribution of voting power, among other matters of regulation.

At the end of the first half of 1943 the number of holding companies registered with the Commission was 129, reporting consolidated assets of over $16,000,000,000, and constituting 52 public utility holding-company systems that included 1,217 holding, sub-holding, and operating companies. In the process of simplification, 152 public utility companies with assets of approximately $3,100,000,000 had been disposed of by their parent holding companies from 1935 to Nov. 15, 1943. In the year ended June 30, 1943, the Commission instituted 27 new proceedings to bring about compliance with the geographic integration and simplification requirements of the act, and 80 such cases were pending at the end of the fiscal year. Reorganization or recapitalization of 29 companies was also approved or ordered, and 12 major holding-company systems were ordered to effectuate compliance with the integration requirements of the act. Security issues under the act, aggregating $612,580,000 par or face amount, were passed upon by the SEC during the year.

The Supreme Court did not pass upon the constitutionality of the Holding Company Act, but various lower courts have sustained it. In November the Third Circuit Court of Appeals upheld the constitutionality of the act and the procedure of the SEC in determining what constitutes a "single integrated utility system" under the act, in the United Gas Improvement Co. case, where the company had been ordered to divest itself of eight subsidiary companies in the so-called Connecticut group and nine non-utility companies in the mid-West.

Earlier in the year the Supreme Court upheld the authority of the SEC in determining what constitutes a subsidiary under the act. The Electric Bond and Share Co. owned 17.51 per cent of the voting securities of the American Gas and Electric Co. and had representation on the board of directors and executive committee of the latter company. Under the act, ownership of over ten per cent of a company makes it a subsidiary, unless the SEC determines absence of control, which it did not do in this case. The Court of Appeals of the District of Columbia upheld the SEC, and the Supreme Court denied review.

RURAL ELECTRICAL ADMINISTRATION

Although the achievements of the Rural Electrical Administration in bringing more and more electric light and power to the farms gave it a generally strong position in Congressional circles, it was under heavy attack toward the end of 1943 because of claims that it had attempted to expand too rapidly in wartime, that it was unduly influenced by the National Rural Electric Cooperative Association, and that a few present and former REA officials were attempting to form a further organization of REA "co-ops" which would have political aspects, and by that and other means were trying to control purchasing of materials, appliances, and insurance. Considerable sentiment appeared for making the REA independent of the Department of Agriculture. An appropriation of $15,000 for an investigation by the Senate agriculture committee was proposed, but was cut to $2,500. By the end of October the REA was reported to have approved work orders for the connection of 53,000 farms in 1943, in addition to approximately 1,000,000 farms already supplied through REA co-ops.

OFFICE OF PRICE ADMINISTRATION

The Public Utilities Division of the Office of Price Administration, authorized by Congress to participate in proceedings before regulatory commissions where utility rate increases of a general character were involved, entered into a considerable number of such cases, involving gas, electric, and other rates. In a proceeding before the Interstate Commerce Commission involving railroad commutation fares in the New York City metropolitan area, the I.C.C. withdrew its favor from a ten per cent increase, corresponding to the general ten per cent increase in passenger fares, after opposition by the New York Public Service Commission and the OPA. In Washington, D. C., a $200,000 increase in gas rates under the sliding scale of the "Washington plan" was assailed by Harry R. Booth, utilities counsel for the OPA, participation of which before the District commission was gained after a legal controversy. The commission granted the increase, which was appealed to the courts and is to be reviewed by the United States Supreme Court. Later the commission ordered a rate reduction of $133,000, in which was involved a lowering of the percentage of return previously allowed the company under the Washington plan.

Among other activities the OPA participated in the effort of the city of Detroit to reduce rates of the Detroit Edison Co. (*infra*), but was ruled out by the Wisconsin Public Service Commission in its attempt to oppose a small increase in the Milwaukee Gas Light Company's rates for gas heating, through operation of a coal adjustment clause in the existing rate structure.

GAS

Gas as well as electric utilities attained new heights of activity. While caring for essential civilian services, the gas industry expanded its facilities and output, despite restrictions on men and materials, so as to meet requirements of heavy industry serving the war effort.

Preliminary statistics published in *The New York Times* on Dec. 25, 1943, indicate the largest number of customers—19,450,000—in the history of the industry; a 24 per cent increase over 1942 in sales of manufactured gas for industrial purposes, and a 12.5 per cent increase in natural gas sales. Total revenues for the entire industry were estimated at $1,171,850,000, or 7.8 per cent greater than in 1942.

The respective jurisdictions of the WPB and the FPC regarding natural gas were clarified by an agreement in September, under which the WPB was given exclusive responsibility for development and administration of programs to supply gas, determination of gas supply and demand as between war and civilian uses, mobilization of the supply, including integration and interconnection of facilities, and planning, development, and administration of gas allocation programs for regions where shortages may arise.

The FPC, under its statutory powers, was to continue to cause extension and interconnection of interstate facilities to bring gas to distribution centers; to control abandonment of service; to determine whether public convenience requires additional facilities; to fix rates for sales in interstate commerce; to supervise gas company accounts and depreciation rates; to collect information on gas operations; and to survey and determine gas supplies, reserves, and transportation facilities.

On Sept. 21 the FPC announced that it would issue a certificate for the construction of a 1,228-mile, $47,500,000 natural-gas pipeline from Corpus Christi, Tex. to Cornwell Station, W. Va., to augment supplies to war production centers in Ohio, Pennsylvania, and New York by the winter of 1944-45.

TELEPHONE AND TELEGRAPH

A matter of outstanding interest in the field of communications was the investigation of the Federal Communications Commission by a Congressional committee headed by Representative E. E. Cox of Georgia, whose financial relationships concerning a small radio broadcasting company were criticized by FCC officials. After many stormy sessions, where it was attempted to prove that the FCC had been capricious and arbitrary in dealing with broadcasting and had failed to cooperate fully with army and navy authorities, Mr. Cox resigned and was succeeded by Representative Clarence F. Lea of California, chairman of the House Interstate and Foreign Commerce Committee.

As a result of a proceeding before the FCC and state commission representatives concerning the relationship of long-distance or "toll" telephone rates to exchange rates, the American Telephone and Telegraph Co. changed the basis of its toll rates from the "board-to-board" to the "station-to-station" theory, under which the toll charge is supposed to cover the complete service from one subscriber's telephone to another's. This permitted certain reductions of rates of subsidiary companies; decreases of over $2,000,000 per annum took effect in New York State in September and October.

On Sept. 28 the FCC approved the merger of the Western Union and Postal telegraph companies.

LOCAL TRANSPORTATION

Street railway and bus traffic continued to receive impetus in most areas from the high degree of industrial and other activity caused by the war, but was held down, particularly in regard to buses, by restrictions on equipment and mileage; and toward the end of the year the easing of restrictions on the use of private motor cars deflected some of the traffic previously coming from persons who normally use their automobiles. Earnings for the year were generally far above those of 1930-40, if not above 1942 in all cases.

A new subway went into operation in 1943, this being the first section of the Chicago subway. Efforts toward unification of the various forms of local transit in that city made some progress, but the proposed merger of the surface and elevated lines failed of approval by the Illinois Commerce Commission.

DEPRECIATION STUDY

An exhaustive study of depreciation, with recommendations, was completed after more than two years of work by the Committee on Depreciation of the National Association of Railroad and Utilities Commissioners. It was presented at the annual convention of the NARUC in September, but no formal action was taken. It has been printed and will be further discussed by the committee and representatives of the utilities and the commissions not directly represented on the committee, prior to action by the Association at its 1944 convention. The report emphasizes the distinctions between depreciation, maintenance, replacements and operating efficiency; it recommends the straight-line method, based on life estimates, of determining both annual and accrued depreciation. Rates of depreciation should depend on statistical data drawn from property experience, applied with judgment based on knowledge of the property, in preference to general judgment based principally on observation of the property, and should be applied to the known cost and not to estimates of value or replacement cost, in determining annual depreciation expense. Differences between depreciation for income tax purposes and for other purposes should be minimized.

WARTIME TAXES IN RELATION TO EXPENSES

The NARUC also considered the problem of wartime taxes and the question whether they are proper allowances as expenses to be covered by rates charged to the consumers. Several commission chairmen inclined toward the view that wartime tax increases should be borne by the stockholders, but they were in the minority. Commissioner Fisher of Connecticut suggested that under present conditions a rate of return of four per cent after all expenses, including taxes, may be considered as high, relatively speaking, as six or seven per cent in the pre-war era. However, no pronounced change of attitude on rate of return was apparent among the commissioners generally.

EXCESS PROFITS ISSUE

The question of Federal excess profits taxes, in relation to utility rates, has caused much dissension. It is estimated that the electric utilities will pay about $190,000,000 of excess profits taxes to the Federal Government in 1943. Although not all of the excess profit as computed for tax purposes is necessarily excess above a fair return to the utilities, the existence of a large amount of such taxes raises grave doubts as to the fairness of utility earnings, both before and after taxes, and adds to pressure for rate reductions.

A particularly hard-fought contest on this issue was waged by the city of Detroit against the Detroit Edison Co. and the Michigan Consolidated Gas Co. The city lost a case before the Michigan Public Service Commission wherein it emphasized that the Edison company was paying some $8,000,000 of annual excess profits taxes, and sought to have the rates for electricity reduced. The commission ruled that it had to consider taxes, including the excess profits tax, as allowable expenses, that the company made less than a five per cent return, after taxes, and declined to reduce rates. The city council, by a vote of eight to one, then enacted a 20 per cent excise tax on the gross revenues of the two companies, thus, in effect, diverting excess profits taxes from the Federal Government to the city. It was estimated that the tax would yield approximately $13,000,000 to the city—$10,000,000 from the Edison company, of which 81 per cent would otherwise be paid to the Federal Government, and $1,900,000 would come from the company's net income. The company contended that rates to customers should be increased 25 per cent, so as to absorb the tax and maintain the company's earnings at the previous level.

The *Electrical World* (Dec. 11) warned that if the Detroit ordinance is upheld as non-discriminatory, similar ordinances could be expected elsewhere, and suggested that companies remit the amount of the excess profits taxes, or a substantial part thereof, to their customers, in the nature of a dividend.

CONSERVATION OF EARNINGS FOR POST-WAR ADJUSTMENT

It developed at the NARUC convention that several commissions take the position that increased earnings of utilities during the war should be conserved for post-war readjustment, including deferred maintenance, replacements, etc. The New York commission (not a NARUC member) on Sept. 23, in ordering a reduction of fares of the Triple Cities Traction Corporation, which had made large profits most of which had been distributed as dividends, reiterated a previous announcement that unless utilities conserve their surplus earnings or improve their financial status by retiring outstanding securities, they will not have the cash needed for post-war replacements, etc., and their financial structure will be such that they can not be allowed to issue securities.

LABOR RELATIONS

Labor conflicts in the public utilities were relatively few during 1943, and a no-strike philosophy was generally observed. The tie-up of transit facilities owned by New York City, which threatened in 1942, did not occur, and a peaceful situation prevailed.

The Utility Workers Organizing Committee, affiliated with the Congress of Industrial Organizations, was active, and in August notices of intent to strike were filed, under provisions of the Connally-Smith Labor Disputes Act, as to employees of five mid-Western electric companies—the Cleveland Electric Illuminating Co., the Ohio Edison Co. (Akron), the

Central Ohio Light & Power Co. (Findlay), the Detroit Edison Co., and the Consumers Power Co. (Jackson, Mich.). This action resulted from delay in the holding of an election as to the exclusive bargaining agency for employees of the Cleveland company, with the lines of which the other companies connect, directly or indirectly. In September the strike notices were withdrawn, however, shortly before votes on striking were to have been taken under the auspices of the National Labor Relations Board.

Early in December there was a strike of about 300 UWOC members employed in the Pine Grove and Hauto power plants of the Pennsylvania Power & Light Co., but work was resumed after five days, the War Labor Board having issued an ultimatum that presidential action would be invoked if the stoppage continued. The UWOC members are reported to be a small minority of the company's employees. The strike was in protest against the dismissal of a UWOC member; the WLB promised to hold a hearing on the matter after the strike, which was reported to have forced a shut-down of 12 anthracite collieries, thrown several thousand miners out of work, and reduced steel production in Bethlehem, Pa.

POST-WAR PLANNING

Although the war was the dominating influence in public utility activities and policies, thought was devoted to post-war planning by the various utility organizations, many private companies and public agencies in the public utility field, looking toward plans for plant additions and changes, procedures for converting from war loads to peacetime uses of electricity, gas, transportation, etc., methods of meeting competition in various quarters from private and public sources, and programs for developing old and new fields of utility service.

WATER SUPPLY

By George A. Sampson

Consulting Sanitary Engineer, Boston

GENERAL

Another year of war has still further disrupted the orderly development of water supplies. There have been sudden and heavy demands for water for domestic, commercial, industrial, and fire protection needs in certain localities where the sinews of war are being produced. In other areas remote from war production centers, the consumption of water has either remained normal or decreased. This lessened demand is due to an appreciable percentage of the water consumers entering the armed services and to a decline in non-essential industrial uses.

WATER WORKS CONSTRUCTION

The construction of new water supplies and the enlargement of existing water works for Army and Navy camps, airports, and other military establishments showed a marked decrease in 1943 from 1942, especially in the later months of the year. On the other hand, there was some increased demands for water to supply large war material production plants and Federal housing projects. One good example of industrial water was for the Charlestown Powder Plant where a supply of over 65,000,000 gallons per day was developed by sinking seven radial wells along the Ohio River.

The strict curb placed by the War Production Board on the ordinary enlargements and improvements to supplying works, extensions, and replacements of distribution systems and the installation of new services has resulted in a marked falling off in construction for other than war requirements. Notable exceptions are New York and Chicago. The Board of Water Supply of New York has made considerable progress on the construction of the Delaware River water supply project. Although the shortage of earth-moving and other equipment has prevented the placing of any earth embankment on the Merriman Dam since 1941, work on the Delaware aqueduct and diversion tunnel has progressed without serious interruption. Chicago was recently granted priorities for materials and equipment to complete the 320,000,000-gallon per day South Side filtration plant. This project is about 60 per cent completed and is expected to be in operation in 1944. Contracts for furnishing the necessary equipment have recently been awarded by the city council.

Water for war demands has been provided, for the most part, by the installation of new supplies under the supervision of the Federal Government acting through the Army and Navy. Municipal water works and private water companies have, none the less, furnished large volumes of water for camps, industrial plants, housing developments, and other purposes related to the war. Some of this water has been furnished from a surplus capacity without overtaxing existing facilities. In other cases, it has been necessary to enlarge the supplying works and distribution system to meet the requirements. Two-thirds of the total demands has been provided by the development of new water works, and one-third by the enlargement of existing systems.

The aggregate construction cost for water works projects in excess of $15,000 was $46,000,000 for 1943 as compared with $150,000,000 for 1942 and an average of $115,000,000 for the 5-year period from 1935 to 1939, inclusive, previous to any war activities. The inference is that a backlog of construction is being built up, the floodgates of which will be opened soon after the conclusion of the war and possibly to a certain extent before the war is at an end.

RAINFALL AND YIELD

The 1943 rainfall throughout the United States was widely variable. Above normal rainfall was generally recorded in the northern part of the country, except in northern Maine. In the southern part drought conditions were experienced in southern Florida, Mississippi, Louisiana, southern Arkansas, eastern Texas, New Mexico, Arizona, southern Nevada, and southern Utah. On an aerial basis annual rainfall was excessive in 31 per cent, deficient in 10 per cent, and normal or near normal in 59 per cent of the area of the United States. Although there were local shortages in some water supplies during the year, they were trivial compared to the more far-reaching difficulties that would have been encountered in a drought year.

Reservoirs in New York, New Jersey, Pennsylvania, and Maryland contained about 90 per cent of the normal storage at the end of the year. More than the usual depletion occurred during July, August, and September owing to subnormal yields and increasing demands for water. In Ohio, the storage was 150 per cent of the previous year, while in Illinois and California the storage was about the same as in 1942.

Ground water pumping in 1943 was the greatest on record as the demands on water for war activities continued to increase. As a result, many localities experienced declines in storage even where replenishment was above normal. Ground water storage, except in areas adversely affected by heavy pumping, was generally above normal in the Northern and Pacific States, and below normal in the Southern States. In the Eastern States, underground storage was above normal until July, after which it rapidly decreased to below normal. In the Great Plains and Western States storage conditions were favorable.

The ground water levels in southern California have been falling rapidly due to increased draft for water supply and irrigation requirements. In 1880 most of the wells were strongly artesian and delivered under an average head of 50 feet. In 1900, the average water level of all artesian and pumped wells was at the ground level. In 1920 the draw-down was 62 feet; in 1930, 80 feet; in 1940, 89 feet; and at the end of 1943, about 92 feet. As a result of this continued lowering of the ground water level, in California, Illinois, Nevada, Utah, and elsewhere, regulatory measures have been adopted or are being considered. Critical ground water conditions exist at Brooklyn, N. Y., Houston and El Paso, Tex., Baton Rouge, La., Savannah, Ga., Norman, Okla., and other cities where war demands have aggravated an already serious problem.

The major flood event of the year was experienced over 200,000 square miles covering seven Central States from Oklahoma to Michigan when the Arkansas River and its tributaries went on a rampage. In West Virginia a rainfall of 15 inches was recorded on August 5, 1943, in a period of 2 hours. In Oregon near-record breaking floods occurred in each of the six months from November 1942 to March 1943. In the upper Connecticut region of New Hampshire and Vermont the heaviest rainfall on record occurred on June 16. In South Dakota several cities along the Missouri River were flooded early in April with the highest water since 1881, which resulted in submerging many water supply systems.

CONSTRUCTION COSTS

The cost of constructing water supply systems for 1943 shows an increase of 5 per cent over 1942. As compared with 1913, the cost has nearly tripled. The advance in wage rates has just about kept pace with the higher cost of materials. These increases do not reflect additional cost owing to more overtime work, lower labor efficiency, and material delivery delays. The following table is of interest in studying the cost trends, using the year 1913 as unity:

Year	Cost Index	Year	Cost Index	Year	Cost Index
1913	1.00	1923	2.14	1933	1.70
1914	0.89	1924	2.15	1934	1.98
1915	0.93	1925	2.07	1935	1.95
1916	1.30	1926	2.08	1936	2.06
1917	1.81	1927	2.06	1937	2.35
1918	1.89	1928	2.07	1938	2.36
1919	1.98	1929	2.07	1939	2.36
1920	2.51	1930	2.03	1940	2.42
1921	2.02	1931	1.81	1941	2.58
1922	1.74	1932	1.57	1942	2.76
				1943	2.90

It will be seen that costs which were at a minimum just prior to the First World War rapidly increased during the war period and for the two following years. For the next decade, costs showed no distinct trend, but following 1930 the depression dropped the index from 2.03 to 1.57. The effects of the current war are again noticeable in the present rising trend. If any parallel conclusion can be drawn from the first war, it is logical to expect a continued construction cost for two or three years after the end of the conflict.

WATER REQUIREMENTS FOR CAMPS AND INDUSTRIAL USES

Before Pearl Harbor, when morale was a main consideration, the water supply standards for cantonments were equal to those of the most progressive cities. For mobilization-type cantonments the allowance was 150 gallons per capita per day and fire protection facilities to meet the standards of the Underwriters' Laboratories for cities of comparable size.

Since Pearl Harbor, as the labor and material shortage became acute and the emphasis shifted from morale to fighting, the standards have been constantly reduced. At the present time, hospitals, permanent army posts, and armored divisions are allowed 150 gallons per capita per day; resident persons 100 gallons; mobilization-type camps, airfields, and cantonments, 100 gallons; theatre of operations type, 70 gallons; and animals 25 gallons per day. To meet unforeseen contingencies in population increase and unusual peak consumption, the foregoing per capita rates are multiplied by factors varying from 2 for project populations of 10,000 and less to 1 for 50,000 and over.

During the First World War, the allowance of 55 g.p.c.p.d. for cantonments was found to be inadequate. In contrast to cantonment requirements, the 45th Division throughout the Sicilian campaign (1943) used about 50,000 gallons of water per day or two gallons per man, and it is estimated that an army can exist and fight on one gallon per day. Fire flows ranging from 500 gallons per minute for small stations with dispersed buildings to 2,000 g.p.m. for large station hospitals and warehouse areas are provided. Warehouses in excess of 1,000,000 square feet area are allowed a rate of 4,000 g.p.m. The duration of fires is assumed to vary from two to four hours, depending on the type, size, and layout of the buildings. All cantonment projects call for a storage in reservoirs, standpipes, or elevated tanks of not less than 50 per cent of the total daily demand or the required fire demand.

For fixed army installations 38.2 per cent of the water was purchased; 41.2 per cent was developed at the camps from driven wells, and 20.6 per cent from surface sources. The average per capita consumption in the continental United States has been reduced from 102 to 69.8 g.p.c.p.d. and varies from 60.7 to 83.5 gallons. The average volume of water supplied to 1,044 stations exceeds 500,000,000 gallons per day, of which 190,000,000 g.p.d. is filtered. The operation project for the fiscal year 1943-4 is nearly $20,000,000. Ground water provided the principal source of supply for army camps, air bases, and other war activities owing to the fact that wells can be developed rapidly and economically.

Most industrial plants use enormous volumes of water in the production processes. It requires 18,000 gallons to manufacture a ton of ingot steel and 42,000 gallons by the time a ton of steel is fabricated: 100 gallons are needed to produce a gallon of gasoline, 236 gallons for a gallon of alcohol, and from 25,000 to 100,000 gallons for a ton of paper. Approximately 150,000 gallons are required to test an airplane engine, and at one of the new synthetic rubber plants about 140,000 gallons of water are used per minute. There is no substitute for water.

POST-WAR CONSTRUCTION

It is estimated that water works construction for the post-war decade will average $220,000,000 annually. In the period from 1920 to 1930, the average expenditure was $130,000,000 per year, which included $200,000,000 spent in the "platinum" year of 1930. The annual increase in population will require an expenditure of about $20,000,000 per year, while delayed construction and maintenance during the war because of restrictions on materials and equipment will require $70,000,000 per year. Estimates submitted by 92 American cities indicate that there is already a backlog of $650,000,000 of essential improvements and extensions to water supply systems in addition to regular expenditures. On the basis of 85,000,000 people supplied with water, the per capita expenditure is $7.65. Assuming that $1 of construction volume produces one man-hour of labor (40 per cent on the site and 60 per cent elsewhere) this represents 650,000,000 man-hours of labor.

It is important that this money be spent for needful projects and with economy. Many associations and committees have made excellent progress on post-war planning. A joint committee representing the American Water Works Association, New England Water Works Association, Federation of Sewage Works Associations, and Water and Sewage Works Manufacturers Association have set a dozen searching criteria for a modern water works.

In order to have a workable program for the development of postwar construction, it is suggested that city officials of America must begin today: 1. to appraise their needs for water and sewerage works improvement or construction; 2. to develop orderly programs for meeting these needs in the order of their importance to the city or the region; 3. to prepare detailed plans and specifications at once; 4. to consider and develop methods for funding the proposed construction; 5. to re-appraise the authority under which the proposed project can be started at the war's end, disposing now of all legal and legislative questions; 6. to schedule definitely the construction program, and, if necessary, to purchase new rights of way and land.

Such a well considered program should help to fill the gap in unemployment at the end of the war. At the present time, the accomplishments have been more apparent in good advice than in action. One of the deterring factors in the immediate preparation of plans and specifications is whether Congress will appropriate money for this purpose. Another factor is the uncertainty of the duration of the war. If the chaos accompanying the depression in the 1930's is to be avoided, the slogan, "Blue print now," should be followed. It is not good policy to await Federal money before completing the planning program. There are many advocates of Federal aid for construction of public works, but probably more who believe that the states and municipalities are able and willing to finance their own improvements. Some cities and towns, where allowed by statute, have already begun to save present operating profits for future needs.

ALLOTMENTS AND PRIORITIES

Probably the greatest help to the water utilities in relation to obtaining allotments and priority ratings for constructing necessary projects and for maintaining an adequate water supply for all essential domestic, military, and industrial needs is the organization on Oct. 26 of a Water Supply Section of the Water Division of the Office of War Utilities. This division is set up on a regional basis with six regions in the United States, each headed by a regional engineer. Applications for water supply projects should be sent to Washington or to the War Production Board field office as in the past, depending on the type of application. Each major project application will be referred to the respective regional engineer for study and report, especially as to relative essentiality. It is felt that this decentralized procedure will develop closer relations between the water utilities and the Water Division. The regional engineer will also advise with the water utilities as to the materials and equipment to be recommended quarterly to the WPB Requirements Committee for allocation.

The War Production Board, under date of Dec. 10, amended several of the supplementary utility orders to give the utilities somewhat more latitude in the scope of work that may be done without special authorization.

In Order U-1-a, issued on Feb. 24, 1943 the provision restricting the length of a pipe extension to 250 feet has been removed, leaving only the dollar limits of $1,500 for underground construction and $500 for other construction. Order U-1-b, issued on Feb. 25, has been revoked. While Orders U-1-c and U-1-d have been amended, they apply only to gas and electric utilities and do not affect water supplies. Order U-1-f is changed to allow temporary facilities, formerly prohibited, to be provided if the conditions named are satisfied. The changes in the conditions are as follows: "Where construction or remodeling by the consumer is involved and WPB authorization has been issued, the construction is now governed by Orders U-1-d or U-1-h. The industrial or commercial consumers that may be served now include the utilities, the petroleum industry except in retail marketing, business of mining or of burning refractories, and radio communication or broadcasting together with those activities previously included in U-1-f. The word 'extension' is employed in the amended order rather than 'connection' or 'utility facility.'

"The schedules attached are changed by deleting former Schedule A, which referred to gas and electric services. Former Schedule B now becomes 'Schedule 1—Utilities Construction Standards.' The material used in an extension is subject to the limitations given in this schedule and must not exceed, in dollar value, $1,500 for underground construction or $500 for other construction."

TYPE OF PIPE PERMITTED FOR DOMESTIC EXTENSIONS

"The type of pipe, permitted to be used for domestic extensions, is set forth as follows: '(1) For mains over 4 inches in diameter (i) cast iron or non-metallic pipe or (ii) steel pipe in cases where installation conditions, high working pressures, or danger of breakage or leakage make the use of a substitute material impracticable or dangerous; (2) For mains 4 inches in diameter and smaller and all service connections, any type of pipe.'

"The quantity of metallic pipe that may be used is detailed under subdivision B and, for domestic extensions, is limited as follows: 'For water extensions, not more than (1) 400 pounds of steel pipe or 1,800 pounds of cast iron pipe or 1,000 pounds of lead or lead alloy pipe, or (2) one of the following combinations; (1) 400 pounds of steel pipe and not more than 1,800 pounds of cast iron pipe, this quantity of cast iron pipe to be diminished by twice the weight of steel pipe used; in addition, a lead goose-neck is permitted; (2) 1,000 pounds of lead or lead alloy pipe and not more than 1,800 pounds of cast iron pipe to be diminished by the weight of any lead or lead alloy pipe used; (3) 400 pounds of steel pipe and not more than 1,000 pounds of lead or lead alloy pipe, this quantity of lead or lead alloy pipe to be diminished by twice the weight of steel pipe used.'

"The limitations on commercial and industrial extensions are as follows: 'The smallest sizes and quantities of equipment, conductor and pipe required to furnish service at minimum standards. No limitation set on type of pipe.'

"The permitted quantities of non-metallic pipe are given as follows: 'Non-metallic pipe of a length not greater than that length which would be installed if cast iron pipe were used as permitted in B above.' "

The restrictions on the use of materials essential for war have resulted in some substitutions of non-essential materials. Several pre-stressed concrete and wooden standpipes and elevated tanks have taken the place of steel structures. Utilities that had standardized on copper tubing for services found it necessary to use wrought iron, cement lined steel, or some other substitute. The manufacturers of domestic water meters, gate valves, and other water works supplies were restricted in their allotment of copper and some other materials, which resulted in numerous substitutes. The utilities in general have endeavored to install a minimum of substitute materials as many are not so well adapted to their use and will need replacing sooner.

The increased demands for water, hampered by restrictions on construction, have caused many water purveyors to conserve water by waste control programs. Notable examples are Philadelphia and Allentown, Pennsylvania. In Philadelphia, the program included: (1) A publicity campaign by radio, newspaper, leaflet and poster to acquaint the consumer of the seriousness of the situation and advise how they could help; and (2) A Pitometer waste survey to locate the hidden underground leaks.

The results were successful beyond expectation. In the first eight months of the year, with the work slightly more than half completed, 988 leaks were discovered and repaired, thereby saving 17,564,000 gallons of water per day. The saving not only allows the system to deliver this additional volume of essential water, but every million gallons per day saved represents 550 tons of coal per year, in addition to electric power and many tons of purification chemicals.

STANDARDS AND STANDARD SPECIFICATIONS

In spite of the curtailed activities of various association committees due to the war, the following Standards and Standard Specifications relating to water works were adopted in 1943: Tentative Specifications for Filtering Materials, by the American Water Works Association; Tentative Revised Specifications for Steel Water Pipe of sizes less than 30 inches in diameter, by the A.W.W.A.; Tentative Emergency Specifications for Reinforced Concrete Pressure Pipe, by the A.W.W.A.; Tentative Recommended Practice in Repainting Elevated Steel Tanks and Water Storage Tanks, by the A.W.W.A.; Tentative Standard Specifications for Alum, by the A.W.W.A.; Standard Specifications for Coal Tar Protective Coatings for Steel Water Pipe, by the A.W.W.A.; Revised Pump Test Code issued by the Hydraulic Institute. The American Standards Association has published a new list of American Standards that will be helpful to the water utilities in purchasing materials and equipment.

In addition, the New Drinking Water Standards as adopted by the United States Public Health Service and the Manual of Recommended Water Sanitation Practice accompanying the Drinking Water Standards should result in a general improvement in water supply quality over the entire country. The revised standards recognize the danger of pollution due to faulty plumbing and other distribution defects and emphasize the advisability of collecting samples from various points in the system, the number to be based on the population served. Some criticism of these standards has been expressed, mainly as to the number of samples to be collected and the resulting burden placed on water laboratories.

WATER PURIFICATION

Public water supplies in the United States now serve about 85,000,000 people, nearly two-thirds of the nation's population. Only about 10,000,000 people are served with waters that are not subject to some treatment, ranging from chlorination to the most complete purification plant. On a population basis, about 52.7 per cent of the treated water is filtered, 12 per cent softened, 4.2 per cent subjected to iron and manganese removal, and 31.1 per cent chlorinated. Including the filtration, softening, iron removal, and other treatment, plants that are also chlorinated, a total of 94 per cent of the water supplied receives chlorination. Statistics show that lime or lime-soda is used for softening in about two-thirds of the softening plants, and zeolite in about one-third of the number. On the basis of plant output, 94 per cent of the water is softened by lime or lime-soda and only about 6 per cent by zeolite. The trend in purification plants is toward the rapid-sand filter, as against the slow-sand type on account of a lower construction cost per million gallon capacity, economy in area, and better adaption to the treatment of colored waters.

Chlorine doses were generally increased during the year to guard against the greater danger of pollution in wartime, and many chlorinators have been purchased for possible emergency uses. Corrosion control showed some advance during 1943. More supplies are being treated with lime, soda ash, or other alkalies to produce a delivered water with a hydrogen ion concentration pH of from 7.5 to 8, to protect the distribution system against aggressive waters.

In considering pollution control it must be recognized that waters vary greatly in their characteristics and action; hence, the best remedy can only be prescribed after proper studies. Treatment with hexametaphosphate (Calgon) to inhibit the precipitation of iron and manganese in the water pipes, first introduced in 1939, has increased. The cement lining of water mains in places has been extended with good results. The cost of lining is approximately 10 cents per lineal foot of main for each inch in diameter. More steel standpipes and elevated tanks are being equipped with cathodic protection, instead of painting below the water level, to prevent inside corrosion. Some trouble has been experienced in cold climates by ice damaging the electrodes. The welding of steel standpipes, elevated tanks, and large pipe lines is supplanting riveted connections. The art of welding has been improved and a large number of experienced welders are now available.

SALT WATER CONVERSION

The great amount of oversea flying and fighting, especially in the far reaches of the Pacific Ocean, focused the attention of the Navy Department on the problem of making salt water drinkable. Heretofore, distilling has been the only practicable solution. During 1943, the Navy announced that a method of chemical treatment had been developed at the Naval Medical Research Institute whereby the salt could be readily removed. The device has been perfected by the Permutit Company of New York City and is extremely simple. A chemical called "desalter," weighing 3½ pounds, will convert seven quarts of sea water into drinking water and is carried in the form of small bars. When dropped into a plastic bag filled with sea water, the chemical quickly absorbs the dissolved salts by ionization, which are then removed by a filter cloth at the bottom of the bag, and salt-less water can be produced in 20 minutes. This equipment has been adopted by the Navy for aircraft life rafts and by the American Airlines for all overwater cargo and passenger flights.

RESEARCH

Some of the recent developments brought about by war research are: new steel alloys; powdered metals compressed at high pressures into gears, bearings, and other shapes; high-speed Diesel engines; synthetic rubber; plastics for small water pipes and some other water works supplies; pre-stressed concrete pipes for water mains; and electronic devices for speed control and for temperature, turbidity, color, and pH determination. Companies supplying water works materials and equipment believe that the old standard materials listed in their latest pre-war catalogs will be available soon after the war without major competition from new devices. The problem of salvaging and disposing of much equipment and materials used in the construction of water works at concentration cantonments and other temporary camps will be of interest at the conclusion of the war. The question of whether bombing experiences in Europe indicate some changes in the design of and materials to be used in water supply systems is being considered.

STREET AND HIGHWAY TRAFFIC

By Ernest P. Goodrich
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AUTOMOBILE REGISTRATION

The total estimated registration for the year 1943 for all motor vehicles —passenger cars and trucks—was 30,300,000, or about 325,000 less than for the year 1942. Of the 30,300,000 total, 25,500,000 were passenger cars and the balance motor trucks. The decrease was obviously due to several factors including restriction on sales of vehicles, rationing of gasoline, practical impossibility of securing new tires, and restrictions on driving. These limitations affected long distance passenger travel most largely, and also vehicle use in the larger cities where few war plants were located. In the vicinity of the latter activities, traffic increased greatly at many points, while in the smaller cities traffic was little affected or even showed some increase.

In 1942, 1,000,000 vehicles were scrapped, and the Office of Defense Transportation estimated 1,500,000 for 1943 and 2,000,000 for 1944. After Pearl Harbor, the yearly percentage of total scrapped cars fell from around 9 per cent to below 4 per cent. It was predicted that the 520,000 unsold new cars frozen at the start of 1942, would be gone some time late in 1943.

Because the production of new cars was stopped for the duration, and because of war workers needs for cars to transport them to and from their plants, the demand for second hand cars was great. Dealers offered high prices, which in some cases were slightly less than when bought new. It was estimated that in December 1943 there were only 25,000 new cars of the '42 models left in dealers hands.

According to a survey of 94 war plants in 10 states made by the Public Roads Administration, the average age of employee cars was found to be seven years. Fifty-seven per cent were shown to be seven years of age or older, and 20 to 30 per cent of cars serving war plants in industrial areas were 10 years old or over.

Gasoline rationing was never equally distributed over all parts of the country. Passenger car driving in the northeastern states was reduced to only 35 per cent of the 1941 mileage. The average passenger car in this section was driven only about 3,800 miles per year as compared to 6,200 on the West Coast and 5,700 miles in the states between the Appalachians and the Rockies. Driving in the latter states was reduced to 60 per cent of the 1941 figures and in the Far West to 67 per cent of these figures.

AUTOMOBILE ACCIDENTS

Concurrent with the reduction in the number of vehicles and their mileage, a reduction in motor vehicle accidents also took place, but not to the same extent. Traffic deaths for the United States were estimated at 36,100 for the year.

The accident ratio in terms of car-miles driven was relatively high in spite of rigid restrictions on speed, gas consumption, and conservation of automobiles. Motor vehicle accident reductions did not keep pace with the restrictions imposed by the national emergency. Of the total fatalities, about 15,000 were people directly engaged in war jobs. One of the largest war plants on the Pacific Coast had the highest motor vehicle accident toll in history, most of which involved pedestrians. To correct this condition, pedestrian lanes at important points were installed and additional patrolmen were assigned to heavily traveled intersections. A 300 per cent increase in motor vehicles traveling between Las Vegas and a nearby war plant necessitated the construction of a four-lane highway. This produced a marked decrease in traffic mishaps.

The menace of night driving received wide recognition, and it was felt that a large saving of life would be attained by making streets and possibly 20,000 miles of highways nearly as safe at night as by day.

The auto accident death rate per 100,000 population dropped to 11.6—about 37 per cent below the first half of 1942. According to the National Safety Council, in 1943 there were 11,250 day and 16,950 night traffic fatalities. Day accidents dropped off 34 per cent but night accident fatalities were only 26 per cent below 1941. The Metropolitan Life Insurance Co. estimated total motor vehicle fatalities at about 23,000 in 1943, some 5,000 less than in 1942, and comparing with the record maximum of 39,981 in 1941.

It was disclosed that night accidents were twice as severe as day accidents. Sixty-two per cent of all pedestrian fatalities occurred in the eight hours from 4 P.M. to midnight; 7-9 P.M.

were peak hours for fatal accidents, with 14 per cent of the day's total. During the period from November to February, when hours of darkness are in the majority, the fatal night accident toll was over two-thirds of the daily total.

Traffic accidents were materially reduced in Utah and much credit went to the newspapers which featured safety programs and other developments relating to traffic problems.

Even though a small percentage of the nation's mileage of streets and highways is lighted, 40 per cent of motor vehicle accidents which occurred at night were on well-lighted city streets or at illuminated highway intersections. Such accidents were due to causes other than insufficient visibility.

AUTOMOBILE USE

April 1943 highway traffic decreases were approximately equal to those of February and March, each compared with traffic in the corresponding month of 1942. Traffic on local highways in April showed much less decrease than that on state highways. In the same month, in the Atlantic seaboard area, traffic was less than 50 per cent of traffic in 1941, while it was nearly two-thirds that of 1941 in the remainder of the country. Again in April the traffic volume at most toll facilities was well below that of April 1942, while at a number of toll facilities with previous heavy traffic volume, truck and bus traffic in 1943 exceeded that of 1942.

The Public Roads Administration of the Federal Works Agency reported, in announcing the May records of 519 automatic traffic counts in 40 states, that in the six months from December through May, traffic on rural roads in the East decreased to less than half of pre-war normal. More than $31,000,000 was collected in motor fuel taxes in 28 states in May, and it was indicated that total urban and rural traffic in the East used about 52 per cent as much gasoline in April 1943 as in the same month in 1941. Gasoline consumption in April, in the area rationed Dec. 1, 1942 was about 73 per cent of pre-war normal, and the April consumption for the entire country amounted to about 64 per cent of pre-war normal.

Taxi cab operators in 22 cities conserved 1,250,000 gallons of gasoline annually by coordinating the services under joint action plans approved by the Office of Defense Transportation. Under 25 of the plans authorized by this office in 22 cities, nearly 14,000,000 vehicle miles were conserved annually to effect the 1,250,000 gallon savings in gasoline.

AUTOMOBILE SPEEDS

Traffic speeds checked in July in Wisconsin did not increase greatly over the previous few months, except that there was a very sharp drop in the number of cars exceeding 55 miles per hour. Two-thirds of the motorists on rural Wisconsin highways drove in the ten-mile-per-hour zones from 35 miles per hour to 45 miles per hour. Although the average speed increased, it was still ten miles per hour less than during normal times.

Investigations proved that a speed of 45 miles per hour required ten per cent more gasoline than 35 miles per hour, and that the average car used 31 per cent more oil at 45 than at 35 miles per hour.

Observations of 3,219 cars at 15 various locations in Wisconsin disclosed an average speed of traffic on its rural highways at about 31.5 by the middle of January as compared with 52.5 miles per hour for pre-war average speed. The major factors causing the low observed speed were believed to be gasoline rationing, fear of losing ration stamps, desire to save tires, normal winter slowing down, and ice and snow on roadway.

According to a study made by the Safety Bureau of the Missouri State Highway Department, the average speed of passenger cars after Pearl Harbor declined somewhat from a pre-war high of 53.6 miles per hour. Average speeds ranged between 42.2 and 44.8 miles per hour during the first four months of 1943. Pre-war speeds showed that 84 per cent of cars travelled 45 miles per hour and 67 per cent travelled over 50 as compared with April 1943, which showed that 49 per cent travelled over 45 miles per hour and 24 per cent travelled over 50 miles per hour. Other studies showed that the average speeds on highways used mostly by defense workers was slightly lower than speeds on other roads where fewer vehicles were used by defense workers.

Observations were made in June 1943 at 16 locations throughout Ohio to determine the speed at which traffic moved over its roads. Electric speed meters were used. Vehicles travelling in either direction were recorded; 6,054 separate readings were made, classed under the type of ration cards displayed on the vehicle. The totals were:

A—Book— 957—15.9%
B—Book—1170—19.3%
C—Book—1900—31.3%
T—Book—2027—33.4%

More holders of C and T books were found on rural highways than were holders of A and B books, as was logically expected. The average speeds were:

A Card holders—37.3 mph
B Card holders—38.6 mph
C Card holders—40.1 mph
T Card holders—36.2 mph
All Vehicles—38.1 mph

It appeared that the higher the allotment of fuel, the higher was the average speed of travel. The speeds were above the recommended 35 mile per hour limit in the case of each type of ration book. Of all vehicles, 60 per cent were travelling over 35 miles per hour and 28.5 per cent exceeded 40 miles per hour. The greatest violator was the C holder, whose violations were more frequent by about 10 per cent than either the A card or the B card holder.

War workers were almost entirely transported by rubber-borne motor vehicles; 86 per cent of all war workers used private automobiles or motor buses, the remainder depended on walking, street car, train or other means. Of those dependent on motor vehicles 73 per cent were dependent on private automobiles and 13 per cent on buses. In the case of newer war plants located some distance from sources of labor supply, practically 100 per cent were dependent on motor vehicles.

Less than 10,000 miles of use remained on 70 per cent of the tires of workers' cars, according to the Public Roads Administration, and over 60 per cent of the cars were five years old or older. Nearly three-quarters of the employee vehicle tires were more than one-half worn out.

It was disclosed by a study conducted by the Highway Division of the Transportation Corps that the further the plant was from sources of labor, the higher was the percentage of late model or newer cars used by the workers. The closer the plant, the higher the percentage of older cars.

TRAFFIC SIGNS AND SIGNALS

The California Division of Highways adopted an adapter which rendered traffic signals suitable for normal day or night blackout operation. Observation from a Navy blimp revealed that a red light making a dull red reflection became visible at one-half mile distance and 500 foot altitude. With an amber light on a pavement, the reflection became visible only after approaching to one-quarter mile at 300 foot elevation. Direct light was not visible from the air. Standard 60-watt signal lamps were used.

A new machine automatically to paint an interrupted traffic stripe was developed by the same agency. California used a 15-foot painted stripe with a break of 25 feet. The operation of the striping machine could be carried out in the usual manner and at the accustomed speeds. Single lines with or without beads could be painted as well as multiple line strips with or without beads. The adoption of the broken traffic line, it was estimated, would result in a saving of paint and beads of approximately $112,000 per year.

In the campaign to help the war effort by conserving gasoline and tires, 1,500 of Detroit's signalized intersections were eliminated and 100 new ones were created; 900 intersections were changed from stop-go to flashing lights; 1,700 were changed to a shorter cycle and 1,800 were operated for a lesser number of hours than formerly.

Of the 45,000 traffic control signs on Buffalo's streets, 4,000 were found to be stop signs. Only 25 per cent of them were provided with reflecting buttons. At least 20,000 of the signs required rehabilitation at an average cost of $2. In 1942-43 an insufficient amount was allocated for the upkeep of these signs. It was recommended that $10,000 be set aside for improvements. This would be a small proportion of the annual parking meter revenues. Income from this source enabled officials to launch a traffic safety program which was so effective that results showed that 26 lives were saved. The average income per day per parking meter in 1940 was 32 cents as compared to 34.7 cents in 1943.

The American Standards Association formally approved the standard for pre-timed fixed cycle traffic signal controllers developed by the Standards and Specifications Committee of the Institute of Traffic Engineers.

PARKING METERS

In Buffalo it was found that the life expectancy of parking meters was about five years. Parking meters were installed for two reasons. The first was to permit easy access to and from a parking space and a greater turnover in parking. The second was for revenue.

Parking meters have been in operation in Portland, Oregon for five years; 2,060 of them were in operation in 1943.

PARKING

Research showed that off-street parking is divided into private, privately operated public facilities, and public facilities. Private parking is often provided as an inducement to renting building space. Stalls are rented on a monthly basis and are not open to the general public.

The largest capacity of off-street parking in the downtown areas is provided by privately operated public facilities. Motorists pay direct, or business firms may validate all or part of the fee upon purchase of goods.

Public or municipal off-street parking is not common. Some cities provide free service, some finance lots through parking meter revenue, and others operate them on a self-sustaining fee basis. The 1943 ratio of off-street stalls to curb stalls is about 3 to 1, as compared to 2.3 to 1, three years previously.

In spite of restrictions on automobile use, in the city of Worcester, the net capacity of private off-street parking lots increased 27 per cent over a three-year period. Banks were the principal sponsors of new lots and caused expansion of existing ones. A 45-stall lot with a small branch building having an inside counter and a drive-in teller's window was established by one commercial bank. Another commercial bank provided a free lot for customers within 300 feet of the bank which serves over 1,000 customers per week. The normal parking time ranges between 7 and 11 minutes. A free parking period of 20 to 30 minutes, with a high fee charged thereafter, was established by all banks. There is one lot for doctor's cars adjacent to a Medical Arts Building. The greatest use was made of parking lots located within one block of a concentrated wartime successful business area. The changes in street parking regulations made a reduction of 385 legal curb stalls which was 17 per cent of the legal curb parking in the central business district.

TRAFFIC LIGHTING

Illuminating engineers throughout the country gave much time and thought to wartime illumination problems. As much artificial light as possible should be developed for civilian safety requirements without affecting adversely the protection along the seaboard, demanded by the Army in behalf of seagoing commerce. The Connecticut State Traffic Commission concluded that traffic lights should not be masked unless masking requirements necessitated that measure.

The lowest night fatality rate occurred on those streets which had at least 0.75 lumen per square foot. On this basis the optimum results from street lighting on any street now illuminated at a lower level have not been reached. As determined from special studies, so as to be adequate and economical, Detroit traffic thoroughfares were lighted to the intensities of 0.8 to 1.2 lumens per square foot of pavement.

TRAFFIC PUBLICATIONS

The Institute of Traffic Engineers, among other special activities, published a report on "War Worker Transportation" prepared for it by the Yale Bureau for Street Traffic Research under a grant from the Eno Foundation. This document included an analysis of the characteristics of the Personnel Transportation problem, staggered hours, group riding, access roads, parking terminals, war housing, and other matters.

The National Association of Manufacturers and the Conservation Bureau cooperated to publish two pamphlets on War Plant Employee Transportation. One of them discussed group riding, while the other covered the subject of Automobile Maintenance. It was pointed out that group riding prolongs life of employee cars, lessens the number of cars coming into the plant, thereby solving the parking problem and relieving traffic congestion. It also permits a plant to employ people from a larger and more sparsely populated area.

The American Transit Association stressed the importance of transit in community planning. The equivalent of 2,847 vehicles for 183 transit companies were saved as a result of staggered hours. It was predicted that there would be keener competition with post-war automobiles, and the need for resettlement of blighted areas was stressed. Obsolete transit vehicles will not attract people who are not forced to use them, so transit equipment of equal caliber of automobiles must be used.

CONSTRUCTION FOR TRAFFIC NEEDS

All states felt the effects of war-restricted construction as well as reduction in maintenance and other normally necessary activities, and will face uncertainties as to future highway revenues.

In order to keep abreast of their problems, all persons charged with the responsibility of improving worker transportation must be constantly on the alert. Constant spot-checking of conditions in the field and periodic review of transportation facts are required.

Every grade separation is a means of eliminating traffic delays and congestion, but from the standpoint of life saving there is probably no other way in which so much money is spent to accomplish so little. It was felt that anything which will make traffic safer will add to the volume of traffic and revenue and provide more money for further improvements.

By-passes are often advocated, but in normal times about 90 per cent of traffic on main highways near the entrances to large cities are bound to or from points within the cities and could not be detoured around them.

By increasing the super-elevation and flattening the curvature of the curb returns and the entrances to the circle, the planning commissions of Long Beach and Los Angeles County enabled the large traffic circle to cope with the increased speed and density of traffic. Traffic islands were placed in proper position which channelized traffic and helped to prevent collisions. Local traffic was also accommodated by the construction of an outer circle. Traffic control and rational light planning, where needed, are as important as a street sewer or highway culvert.

Post-war plans for traffic control were made by Michigan's State Highway Department. The ultimate system is aimed to meet the different needs of the different parts of the state. The rural system will consist of two-lane highways of various types, dual highways, and expressways. The latter will be built on the heavy traffic routes of the inter-regional system, having separate roadways for travel in each direction. They will be routed directly between important terminals and access to them will be limited to a few points. Grades of all intersecting traffic lines will be separated.

Dual highways will be built on all important routes whose traffic is beyond the capacity of two-lane pavements and where the use of limited access is impractical and unnecessary. Work of setting the program up and getting it in motion is important in order for it to be effective. An important factor is directing engineering attention to the traffic and safety angles of the new highways.

The construction of a considerable number of large war plants required major changes in the surrounding highway system, and even after the completion of the new system, traffic conditions were of an acute nature in many locations. In designing the system to serve the Willow Run plant, the roadways were arranged to have a safe and efficient hourly capacity of 1,500 vehicles per lane. Because of its complexity the commonly used cloverleaf system of interchange at intersections was not used. The dividing strip for the expressways is normally 164 feet, but it was increased to as much as 875 at important intersections. The space at this point is an important factor in determining the design speed of the interchange roads.

A 3½ per cent grade limit for all ramps contributed to the 35-mile-per-hour maximum speed on the transfer roadways. At points where transfer roads enter the intersecting highway, this speed is not wasted by enforced stops.

An investigation of the "American Automobile" was conducted by a "jury" of 41 leading traffic authorities from many sections of the country. The "witnesses" were 16 specialists in motor transportation and each appeared before the group for a day or two to supply the necessary facts and authoritative information. Weaknesses in existing automobile transportation programs were determined to devise ways to overcome them. The shortages in manpower and materials as a result of the war were also discussed.

It was found that batteries and mufflers were affected in infrequently used vehicles. Proper driving habits prevent the loss of vital manpower, vehicles, and materials resulting from traffic accidents.

PERIODICAL PUBLICATIONS

Bus Transportation
330 West 42nd Street, New York City.
Economic Geology
Natural History Bldg., Urbana, Ill.
Electrical Communication
67 Broad Street, New York City.
Electrical World
330 West 42nd Street, New York City.
Gas Age-Record
9 East 38th Street, New York City.
Journal of the American Water Works Association
500 Fifth Ave., New York City.
Journal of Geology
5750 Ellis Ave., Chicago.
National Engineer
176 W. Adams Street, Chicago.
Passenger Transport
292 Madison Ave., New York City.
Public Service Magazine
1012 Pioneer Bldg., St. Paul, Minn.
Public Utilities Fortnightly
1038 Munsey Bldg., Washington, D. C.
Public Works
310 East 45th Street, New York City.
Sewage Works Journal
40 Wall Street, New York City.
Water Works and Sewerage
155 East 44th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Planning and Civic Association, 901 Union Trust Bldg., Washington, D. C.

American Public Utilities Bureau, 280 Broadway, New York City.

American Transit Association, 292 Madison Ave., New York City.

American Water Works Assn., 500 Fifth Ave., New York City.

Edison Electric Institute, 420 Lexington Ave., New York City.

International Assn. of Fire Chiefs, Police Headquarters, Philadelphia.

National Parks Assn., 1214 Sixteenth St., N.W., Washington, D. C.

Park Assn. of New York City, Inc., 295 Madison Ave., New York City.

Public Service Commission, State Division, 80 Center St., New York City.

DIVISION IX

DEFENSE AND ARMAMENT

THE UNITED STATES ARMY

By Robert S. Thomas
Military Historian, Historical Section, Army War College

OBJECTIVE OF THE ARMED FORCES

In 1943 the War Department issued and distributed widely a handbook in which the opening paragraph is worth quoting to emphasize the objective of our armed forces: "Today's Army is designed for one purpose—to carry the fight to the enemy. All organizations within the Army, the War Department, the General Staff, all Washington's administrative offices have but one goal—to help provide properly trained, well-equipped, and vigorously directed troops, so that commanding officers at the front are free of all responsibilities not directly pertaining to tactical operations."

In furtherance of this objective, American troops have penetrated to every quarter of the globe, fighting in the steaming heat of tropical jungles, as well as in the frozen wastes of Arctic tundras. The raising of these troops, their equipping and training, and their transportation to theaters of action has required efforts of gigantic proportions. They were mobilized from every inhabited portion of our land; they were equipped with clothing and arms which were thoroughly modern in every respect; they were trained in methods calculated to meet combat demands which they would face; and they were transported in every conceivable manner—rail, air, highway, and water. The successful coordination planned and accomplished in these missions staggers the imagination. Only a relatively few short months ago we discussed with some pride the fact that our Army had expanded to a strength of 140,000—the year 1943 saw our Army strength expanded to more than 8,000,000 men.

ARMY GROUND FORCES

The form of organization proposed by War Department Circular 59, dated March 2, 1942, was put into effect March 9, 1942. During 1943, this tripartite plan functioned smoothly and efficiently. Statements relative to the three Services therein established follow:

The mission of the Army Ground Force is to provide ground troops, ready for combat, to commanders of theaters of operations, task forces, and defense commands. Therefore, it is the function of the head of this Force, Lieut. General Lesley J. McNair, to organize, equip, and train field artillery, infantry, coast artillery, cavalry, and armored force units. This training and equipment extends to all the old line arms, plus the diverse troop elements which have been found necessary in modern field warfare, such as airborn units, antiaircraft units, including barrage balloon troops, tank destroyer units, and forces especially trained for operations in the desert, in the jungle, in mountains, and under conditions of snow and extreme cold.

To accomplish this work, General

McNair set up an organization which roughly parallels that of the War Department General Staff, dividing the Army Ground Forces into seven sections: Chief of Staff; G-1 (Personnel); G-2 (Military Intelligence); G-3 (Operations and Training); G-4 (Supply and Transportation); Plans and Requirements. In these, the Chief of Staff maintains a statistical section and an historical section as well as an office for technical information. G-1 establishes personnel policies dealing with recreation, welfare, decorations and awards, changes in assignments, leaves of absence, retirements and resignations, and, with the exception of general officers, promotions of commissioned personnel. This work requires close liaison with similar agencies in the Army Air Forces and the Army Service Forces. G-2 deals with combat intelligence training and counter-intelligence, emphasizing the means of procuring and disseminating properly analyzed information on foreign trends and developments in weapons, equipment, and methods of warfare. G-3 deals with organization, mobilization, training, assignment, and movement of troops, tactical units, and task forces. G-4 specializes in transportation, construction, maintenance, and supply. The Plans Section, in liaison with the War Department General Staff Operations Division, studies and evolves long-range plans and policies. The Requirements Section is concerned with organization, control, and coordination of branch boards, such as the infantry board and the field artillery board; with preparation and supervision of training manuals and visual training aids; and with preparation of tables of organization and basic allowances for ground troops.

ARMY SERVICE FORCES

This Force has as its mission the development, production, distribution, and transportation of supplies and equipment for the Army. A paralleling mission is that of supplying necessary administrative personnel to function within the United States in handling financial and legal matters, housing projects, communications' installation and operation, internal guard assignments, and health and welfare missions as they supplement our military efforts in combat training and active operations on the battlefield. Lieut. General Brehon B. Somervell, the head of this gigantic supply agency, has established the following staff divisions within his command: Director of Personnel; Director of Military Training; Director of Operations; Director of Matériel; Fiscal Director; and Director of Administration. Each of these has clearly defined missions.

The Director of Personnel coordinates several extremely active agencies, (a) the Military Personnel Division, responsible for military personnel as individuals, (b) the Office Procurement Service, charged with recruiting civilians as officers, (c) the Industrial Personnel Division, responsible for maximum use of available civilian manpower, (d) the Special Service Division with its mission of raising and maintaining morale of military personnel, (e) the Director of the Women's Army Corps, the distaff member of the Army, (f) the Army Specialized Training Division, schooling enlisted men in specialized fields, and (g) the Chaplains Corps, responsible for the spiritual welfare of our soldiers, regardless of race, color, or creed.

The second Directorate in the Army Service Forces, that of Military Training, supervises training as applicable to supply functions. The Director of Operations plans and directs supply in theaters of operations, breaking his job down into five sub-divisions—planning, mobilization, stock control, storage, and maintenance. The Director of Matériel produces and procures supplies and equipment (except aircraft), accomplishing his mission through four subdivisions of his office—requirements, purchases, production, and international aid. The Fiscal Director spends and accounts for such money as Congress appropriates for the Army.

The Director of Administration coordinates administrative procedures for the Army, using for the task certian well-defined and long-established agencies, such as the Office of the Adjutant General, administering records, correspondence, publications, decorations and awards, and operating the Army Postal Service; the Office of the Judge Advocate General, supervising the system of military justice throughout the Army; the Office of the Provost Marshal General, providing, through personnel trained in special schools, officers to administer military government in occupied territory, also conducting special personnel investigations, interning enemy aliens and prisoners of war, and furnishing military police; the Army Exchange Service, selling to soldiers such articles as are not government issue; the National Guard Bureau, training National Guard not in Federal Service, along with State Guards; and the Reserve Officers' Training Corps handling all Reserve matters.

The job of producing and procuring supplies and equipment is accomplished through the technical services. These are: the Quartermaster Corps, responsible primarily for food, clothing, and fuel; the Ordnance Department, responsible for tanks, combat and transport vehicles, artillery and small arms (including ammunition for both), bombs, grenades, mine equipment, and pyrotechnics; the Chemical Warfare Service, producing smoke and incendiary materials, poisonous gases, smoke appliances, chemical weapons (and their ammunition), ceramics, chemicals, and gas masks; the Signal Corps which installs, maintains, and operates communication systems, including telephone, telegraph, teletype, radio, and radar. This Corps also devises code and cipher means of transmitting messages, trains and maintains pigeons for messenger work, operates meteorological work services, and handles the Army's photographic work.

The Medical Department is responsible for selecting the Army's personnel and animals and for keeping them in good health. The Transportation Corps, responsible for marine, highway, and rail movements for the Army's supplies, as well as personnel, operates many forms of carriers. The Engineer Corps is charged with Army construction work, with surveying and map production and reproduction, with evolving camouflage materials and practice, with devising equipment for antiaircraft searchlights, with water purification, with devising and installing demolition agents, and with the military distribution of gasoline and fuel oil.

For administrative purposes, the Army Service Forces has divided continental United States into nine service commands, formerly known as corps areas; a tenth, outside the United States, is called the Northwest Service Command. These commands, in effect field agencies of the Army Service Forces, carry out all the normal functions of the parent Force within their respective areas.

ARMY AIR FORCES

This Force is charged with the development and effective use of our air power in combat. General H. H. Arnold, heading this force, is assisted by an Advisory Council, a Chief of Air Staff, three Deputy Chiefs of Air Staff, and six Assistant Chiefs of Air Staff. The immediate Chief of Air Staff is the direct adviser and assistant to the Chief and acts for him in his absence. He has the assistance, in turn, of the Deputy Chiefs. The Assistant Chief for Personnel shapes policies and executes established programs relating to Air Force military and civilian personnel; the Assistant for Intelligence plans and supervises collection, evaluation, and dissemination of intelligence data; the Training Assistant devises policies and programs for training of individuals and units (except service units); the Operations Assistant integrates approved plans into an over-all program for procurement and allocation of personnel, equipment, trained units, and replacement crews; the Assistant for Matériel Maintenance and Distribution handles logistics for the Air Force, including research for improvement of aircraft and equipment; and the Assistant for Plans works in close liaison with all other assistants in planning and diagramming all projected air developments and activities.

The Air Force operates through nine Commands, four continental Air Forces, and such forces as are set up in various theaters of operations.

During the year, equality of the Army Air Forces with ground troops was formally established by General George C. Marshall, employing the principle of a separate air arm without an actual divorcement. Land and air forces were held as co-equal and interdependent, neither being an auxiliary of the other. A theater commander was forbidden the right to attach Army Air Forces to ground units, except when such units were operating independently or were isolated by distance or lack of communications. Therefore, the command of air and ground forces in a single theater of operations is now vested in the superior commander charged with the actual conduct of operations in the theater—he to exercise command of air forces through the air force commander and command of ground forces through the ground force commander. An outstanding example of the operation of a single command was that of General Dwight D. Eisenhower, commander in the Mediterranean area, wherein he used land, sea, and air power in combined operations with tremendous effect.

The above briefly-described Forces, through unified and coordinated effort, raise, equip, and train the troops which fight in the field. In combat, three classifications are recognized, (1) theaters of operations, (2) task forces, and (3) defense commands. A theater of operation is any area in which our troops engage the enemy. The commanding general of a theater of operations receives from the three Forces all troops, equipment, and supplies necessary to a projected operation, and he is responsible only to the Chief of Staff (General George C. Marshall) for employment of the means furnished him. A task force is on a smaller scale a theater of operation, organized for the sole purpose of accomplishing a particular mission. When this stands complete, the troops assembled break out from the task force organization pattern and return to their parent organizations. Such a force may thus contain infantry, armored, air, and artillery units—dependent upon the demands of the job to be done. Defense commands are task forces holding ground in which the enemy is not, for the moment, engaged. Should fighting ensue, defense commands become theaters of operations.

WAR DEPARTMENT OVERHEAD ORGANIZATION

Overhead organization of the War Department is set up with Secretary of War (Henry L. Stimson) as its head. He is responsible to the President for executing the provisions of the National Defense Act; for maintaining and operating all Army bases; for the security of the Panama Canal, and for the same duty for harbor and seacoast fortifications; for improvement and development of Army Equipment; and for businesslike management of all Army affairs. He has the following Assistants: the Under Secretary of War, Robert P. Patterson; the Assistant Secretary of War, John J. McCloy; the Assistant Secretary of War for Air, Robert A. Lovett; and the Chief of Staff, General George C. Marshall. This latter officer is the immediate adviser of the President and the Secretary of War in everything pertaining to organization, management, and operation of the Army. General Marshall has the assistance of a Deputy Chief of Staff, Lieut. General Joseph T. McNarney, and of the several divisions of the General Staff, *viz,* G-1, Personnel, Brig. General Miller G. White; G-2, Intelligence, Major General George V. Strong; G-3, Organization and Training, Major General Ray E. Porter; G-4, Supply, Major General Russell L. Maxwell, and Operations, Major General Thomas T. Handy.

The chiefs of the several arms, services, and departments are: Major General James A. Ulio, Adjutant General's Department; Major General Virgil L. Peterson, Inspector General's Department; Major General Myron C. Cramer, Judge Advocate General's Department; Major General Edmund B. Gregory, Quartermaster Corps; Major General Norman T. Kirk, Medical Department; Major General Howard K. Loughry, Finance Department; Major General Eugene Reybold, Corps of Engineers; Major General Levin H. Campbell, Ordnance Department; Major General Harry C. Ingles, Signal Corps, and Major General William N. Porter, Chemical Warfare Service.

The Four-Army Plan, whereby large units are provided for continental United States maneuvers, vital to training, was continued during the year with the following assignments: First Army, Lieut. General Hugh A. Drum, later, Lieut. General George Grunert; Second Army, Lieut. General Ben Lear, later, Lieut. General Lloyd R. Fredendall; Third Army, Lieutenant General Walter M. Krueger, later, Lieut. General Courtney N. Hodges; Fourth Army, Lieut. General John L. DeWitt, later, Lieut. General William H. Simpson. A new defense command, Western Defense Command, was set up and headed by Lieut. General Delos C. Emmons.

ARMY AND NAVY STAFF COLLEGE

This institution, established to instruct selected, qualified Army, Navy, and Marine Corps officers in the performance of command staff duties in unified and coordinated activities of Army and Navy forces, was formally opened in Washington, D. C., Aug. 5, 1943. The course of study is divided into two phases.

The first phase is conducted at three associated schools, the Naval War College, Newport, R. I.; the Army Command and General Staff School, Fort Leavenworth, Kan.; and the Army Air Forces School of Applied Tactics, Orlando, Fla. In this first phase, the student officer attends a four weeks' course at the two associated schools he has not previously attended.

The second phase of instruction, given in Washington, D. C., consists of an eight weeks' course of intensive instruction in the application in joint or coordinated operations of the students' knowledge. Four Joint Staff Divisions are covered—Intelligence, Operations, Logistics, and Communications.

At the outset, Commodore E. J. Foy, U. S. N., served as Acting Commandant of the school. He was succeeded in command by Lieut. General John L. DeWitt upon the latter's relief from command of the Fourth Army.

THEATERS OF OPERATIONS

Scope.—As the year closed, Army commands were scattered widely on the global front. In reporting combat from these fronts, it is no longer possible to separate Army actions and discuss them solely. The commander in a theater of operations controls Army, Navy, and Marine units and moves them as necessity dictates—the operations involved and the successes achieved are the common property of all units engaged. In the latter months of 1943, command in the several theaters of operations was as indicated:

Southern Europe (Italy, Sicily, North Africa).—General Dwight D. Eisenhower, commander; Lieut. General Mark W. Clark, commander, U. S. Fifth Army; Lieut. General George S. Patton, commander, Seventh Army; Lieut. General Carl A. Spaatz, commander, Northwest Africa Air Force; Major General James H. Doolittle, commander, Strategic Air Force; Lieut. General Walter B. Smith, Chief of Staff.

Western Europe.—Lieut. General Jacob L. Devers, commander; Major General Idwal H. Edwards, Chief of Staff; Major General Russell P. Hartle, commander of troops in the field; Lieut. General Ira C. Eaker, commander, 8th Air Force; Major General William E. Kepner, commander of fighting planes.

Southwest Pacific.—General Douglas MacArthur, commander; Lieut. General George C. Kenney, commander, Allied Air Forces; Major General Ennis C. Whitehead, deputy commander, 5th Air Force; Lieut. General Walter Krueger, commander, Sixth Army; Lieut. General Robert L. Eichelberger, commander, U. S. troops in New Guinea; Major General Richard K. Sutherland, Chief of Staff.

South Pacific.—Lieut. General Millard D. Harmon, commander; Major General Oscar W. Griswold, commander of ground forces; Major General Nathan F. Twining, commander, 13th Air Force.

Central Pacific.—Lieut. General R. C. Richardson, commander; Major General Willia H. Hale, commander, 7th Air Force; Brig. General Truman H. Landon, commander of bombing planes; Brig. General Robert W. Douglas, commander of fighter planes.

Alaska.—Lieut. General Simon B. Buckner, commander; Major General Eugene M. Landrum, commander Aleutian Islands operations; Major General Davenport Johnson, commander, 11th Air Force.

China, India, Burma.—Lieut. General Joseph Stilwell, commander; Major General George Stratemeyer, commander of theater air forces; Major General Claire Chennault, commander, 14th Air Force (China); Brig. General Howard Davidson, commander, 10th Air Force (India).

Middle East.—Major General Ralph Royce, commander, 9th Air Force; Brig. General A. C. Strickland, commander of fighting planes; Brig. General Uzal G. Ent, commander of bombing planes; Major General Donald H. Conolly, Persian Gulf service command.

Newfoundland.—Major General John B. Brooks, commander.

Caribbean Area (Panama Canal).—Lieut. General George H. Brett, commander; Major General H. R. Harmon, commander, 6th Air Force.

Antilles Department (Puerto Rico and Bases on British Possessions).—Major General Henry C. Pratt, commander.

NAVAL CONSTRUCTION AND EQUIPMENT

By John Niedermair
Bureau of Ships, Navy Department

APPROPRIATIONS

During 1943 many requests were made for funds and contract authorization for the construction of the vast navy required to carry on global war. Many of the funds used on the continuing program for the year had been authorized prior to and during 1942. As 1942 drew to a close President Roosevelt signed a $15,000,000,000 appropriation and contract authorization bill which contained funds for more than 14,000 naval planes and authorized construction of 500,000 tons of aircraft carriers. This provided for a large number of aircraft carriers and also contained contractual authority for 500,000 tons of cruisers. Included in this bill were supplemental appropriations for various war agencies but the bulk of the $15,000,000,000 was for the Navy Department.

On Feb. 20, President Roosevelt signed a naval appropriation bill authorizing the expenditure of $120,000,000 for the construction of additional naval building and repair facilities. The bill was also designed to expedite the construction of a number of floating drydocks.

A bill appropriating $3,836,176,119 for additional expenditures by the Navy during the current fiscal year was signed by the President on April 1. The bill also included contract authority for general ship repairs and conversion facilities in addition to the cash appropriations.

An appropriation for the Navy of $29,463,687,198 was passed by the House on May 20, the largest single year's allotment in history. The bill carried $4,500,000,000 for aviation and $9,000,000,000 for new ships, and was passed by the House by a vote of 360 to 0. The bill raised the nation's outlay for war since July 1, 1940, including lend-lease and other related items, to about $250,000,000,000. This summation was reported by Representative O'Hara prior to a request for funds by the Army amounting to $72,000,000,000. By the time President Roosevelt signed the bill on June 28 the amount appropriated had increased to $33,000,000,000 for the 12 months starting July 1, 1943. Included were $27,637,222,198 in direct appropriations, contractual authority for approximately $6,000,000,000, and about $5,000,000,000 for 27,000 planes.

On Sept. 27, the President asked Congress for an additional $75,000,000 for the fiscal year 1944. These additional funds were required to increase the naval stock fund.

WALSH BILL FOR NEW CONSTRUCTION PROGRAM

Senator David I. Walsh, chairman of the Committee on Naval Affairs, upon the Navy's request, introduced a bill on Nov. 23, requesting Congressional authorization for the acquisition, conversion, or construction of 2,500,000 additional tons of auxiliary vessels and 1,000,000 tons of landing and district craft. This was the seventh bill of its kind for auxiliary vessels and the second for landing craft since June 1940. The cost of the new program was estimated at $3,600,000,000 to $5,000,000,000. The program included most of the types required for amphibious or landing operations. The Navy Department had plans to obligate itself immediately for the construction of about 1,800,000 tons of auxiliary and 350,000 tons of landing craft. The types of ships to be built or acquired under this program, Senator Walsh announced, would probably include auxiliary aircraft carriers, ammunition ships, refrigerator ships, miscellaneous auxiliaries, cargo ships, mine sweepers, tankers, troop ships, evacuation ships, airplane transport vessels, repair tugs, landing boats and tank landing ships.

SHIPBUILDING

One of the most complete reports on the state of the Navy was made by the Navy Department on Sept. 19, 1943. It claimed the mightiest fleet in world history backed by the most powerful naval air force. The report covered the progress made in three years toward the development of a modern sea-air power consisting of ships, planes, and shore facilities.

In the 36 months between July 1, 1940 and July 1, 1943 the Navy completed 15,376 new ships of all types. Construction and machinery for these vessels cost over $5,300,000,000. They compose a fleet of more than 2,200,000 displacement tons. The new fleet completed since July 1, 1940, standing apart from the U. S. Navy in existence on that date, would be one of the largest naval forces in the world. It comprises: 333 combatant vessels aggregating 1,117,054 displacement tons and costing more than $3,000,000,000; 1,274 mine craft and patrol craft of 199,765 tons costing $820,000,000; 151 auxiliaries and 654 yard and district craft; 12,964 landing craft aggregating 610,781 tons and costing more than $1,000,000,000. No naval construction program of comparable size and speed has been accomplished by any other nation.

The rise in naval ship completions is without parallel. The number of vessels completed in the single month of June 1943, for example, approximates the number completed in the first 18 months of the defense program. Against a total of 213,854 tons completed in 1941, 278,734 tons were completed in the first half of 1942. Against a total of 847,197 tons completed in all of 1942, 1,091,368 tons were completed in the first half of 1943.

COMBATANT SHIPS

Battleships, aircraft carriers, cruisers, destroyers, destroyer escorts, and submarines make up the largest part of the Navy program, and the step-up in the production has been especially sharp. The tonnage of combatant ships completed in the first six months of 1943 is more than 20 times the tonnage completed during the first six months of the defense program.

In the days immediately after Pearl Harbor, the greatest urgency was for the new battleships of the *North Carolina* and *Iowa* classes, and capital ships so rushed through played a decisive part on the nights of Nov. 15-16, 1942 in holding Guadalcanal.

LANDING CRAFT

Although the largest tonnage completions are in the combatant subdivision of the program, the steepest rate of increase has been in the landing craft completions. In the 18 months between July 1, 1940, and the end of 1941, before the United States was a belligerent, only about 7,300 tons of landing craft were completed. In the first six months of 1942, during which President Roosevelt gave landing craft an overriding priority, completions moved up to 10,000 tons or 50 per cent more than the total of the preceding year and a half, but the greatest jump came during the last half of 1942. In those six months 218,000 tons of landing craft were completed, or more than 20 times the total for the preceding six months. The increase continued into the first half of 1943 when 375,000 tons of landing craft were completed.

The landing craft construction record is especially remarkable because of the pressure under which the war began and was continued. Raising new problems of design and construction, it was superimposed on the existing Navy shipbuilding program early in 1942. During March and April, the program was being outlined and contracts were being let, while designs for both tank and infantry landing craft were still in the development stage.

Only five months elapsed between the time that the requirements for large infantry landing craft—all steel, ocean-going vessels—were outlined and the date on which the first vessel was delivered. Work accomplished during this period included the development of general design, model testing, development of main engine, and assembly of materials required by the building yards.

HORSEPOWER

In the two and one-half years between Jan. 1, 1941 and July 1, 1943 the Navy installed machinery with an aggregate capacity of 17,608,000 shaft horsepower in its new vessels. In the 30 months beginning Jan. 1, 1941, there were created for navy vessels power plants which, combined, approximate the horsepower of all the hydroelectric facilities in the United States on that date. About two-thirds of the horsepower in the new Navy vessels is furnished by steam propulsion and one-third is Diesel propulsion.

BUILDING TIME

The time required to build Navy fighting vessels of each class has been reduced to record figures since Pearl Harbor. The aircraft carrier *Essex,* a 27,000-ton ship completed in December, 1942, was built in 20 months compared with nearly 46 months required for the carrier *Enterprise,* a 19,800-ton vessel completed in May, 1938. The new 27,000-ton carrier *Yorktown,* which was completed in 30 per cent less time than the original 19,800-ton *Hornet,* was built in 17½ months. The 45,000-ton battleship *New Jersey* was completed in 26 per cent less time than the 35,000-ton *Washington.* Their building periods were 33 months and 45 months, respectively.

The cruiser *Wichita,* completed in 1939, required 41 months to build while the larger *Boston,* completed in 1943, was built in 24 months. The 1939 light cruiser *Helena* was built in 36 months; the 1943 light cruiser *Biloxi* in less than 26 months. The destroyer *Niblack,* completed in August 1940, required 24 months; the *Gatling,* completed in November, 1942, was finished in 7¼ months. Between the *Drum* in 1941, and the *Aspro* in 1943, submarine building time was reduced 48 per cent.

MAN-HOURS

The yards building Navy ships have made substantial reductions in the labor required to complete a vessel. The New York Shipbuilding Corporation, an old established builder of cruisers, has reduced the man-hours by 25 per cent. The light cruiser *Cleveland,* completed in June, 1942, required 7,600,000 man-hours. The light cruiser *Santa Fe,* completed in November, 1942, required only 5,700,000 man-hours.

The Bath Iron Works, builders of destroyers, has reduced destroyer man-hours 28 per cent. Between the destroyer *O'Bannon,* completed in June 1942, and the destroyer *Dehaven,* completed in September, 1942, the man-hours were reduced from 1,600,000 to 1,150,000. The Consolidated Steel Company has reduced the man-hours required for destroyers by 34 per cent.

Landing craft construction was new for all of the shipyards which went into the program early in 1942. A large infantry landing craft completed by George Lawley and Sons in October, 1942, required 155,000 man-hours, and one completed two months later required 84,000 man-hours, a reduction of 46 per cent.

FACILITIES CONSTRUCTION

The Navy facilities construction program showed a decline in the first six months of 1943, in keeping with the national policy of curtailing construction. This decline followed a series of phenomenal increases in the value of work done in each succeeding semi-annual period since July 1, 1940. The smallest of these period-to-period increases was 58 per cent and the largest 87 per cent.

As in the shipbuilding and ordnance programs, the value of work done during each six-month period through 1942 was more than equal to that done in the preceding 12 months.

From July 1, 1940 to June 30, 1941 a total of $8,100,000,000 of facility construction work was scheduled and committed for by the Navy. The value of work done in this period amounted to $6,500,000,000 or 81 per cent of the work scheduled. The Navy construction program falls into two grand divisions which in turn have ten subdivisions. The smaller of the two grand divisions is the one covering industrial facilities. Industrial facilities construction scheduled since July 1, 1940, amounts to $3,200,000,000, and 81 per cent of it, or $2,600,000,000, was completed by July 1, 1943.

Sixty per cent of Naval industrial facilities construction was for shipbuilding and repair. The other 40 per cent was divided about equally between ordnance and aircraft.

In the second grand division of the facilities construction program, non-industrial facilities, the Navy has scheduled $4,800,000,000 of work since July 1, 1940, of which 81 per cent, or $3,900,000,000, was completed by July 1, 1943.

DIRECT NAVY WORK

Of the construction completed by July 1, 1943, about $4,600,000,000 comprises the Navy's direct shore construction program. This entire Navy program has progressed rapidly.

Large graving docks, excavated drydocks in which battleships and cruisers can be overhauled, are one of the most difficult shore installations to build. Prior to Pearl Harbor, construction of these docks averaged 50 months each. Since Pearl Harbor the average has been reduced to 22 months.

Two war-born types of construction are floating drydocks and pontoons. Floating drydocks enable the fleet to take with it, across the vast distances of the Pacific, its own overhaul facilities. Construction of these docks, some of them capable of handling the largest battleships, began late in the Defense Program. In the first half of 1942, docks with lifting capacity of

6,000 tons were completed. A year later, in the first half of 1943, docks with lifting capacity of 255,000 tons were completed. Steel, sectional, floating pontoons are a new development of amphibious war. At invasion points they can be used as lighters or fuel barges, or, like building blocks, they can be coupled into piers, bridges, drydocks, and other waterfront facilities. The Navy produced 1,920 pontoons in the first half of 1941. Two years later, in the first half of 1943, 27,924 were completed. In all, by July 1, 1943, 84,361 of these pontoon sections had been completed.

1940-43 CONSTRUCTION SUMMARY

In July, 1940, the Navy received five newly completed vessels; in June, 1943, almost 1,200. In July, 1940, the Navy received 25 new airplanes; in June, 1943, almost 2,000. Between these two dates the Navy built 2,200,000 tons of ships. It added to its air arm 23,000 planes. It completed $6,500,000,000 of shore facilities.

When the defense program began, the Navy had a fleet of 1,076 vessels displacing 1,875,000 tons. Of this fleet, 383 vessels were warships—battleships, carriers, cruisers, destroyers, and submarines. The weight of this fighting fleet was 1,313,000 tons.

During the three-year period, July 1, 1940 to July 1, 1943, the Navy lost 58 warships: one battleship, four carriers, nine cruisers, 32 destroyers, and 12 submarines. It transferred to other nations or converted to non-combat vessels 129 other warships. In all, it lost or gave up 484,521 tons of fighting ships.

At the end of the three years the Navy has 14,072 vessels as compared with the 1,076 vessels at the beginning. The combined tonnage of the 14,072 vessels is almost 5,000,000 tons as compared with 1,875,000 tons in July 1940.

In the new fleet the Navy, despite its losses, has 613 warships. Their tonnage, 2,217,982 tons, exceeds that of the 1940 fighting ships by 70 per cent.

REVISION AND ADJUSTMENTS IN THE NAVY PROGRAM

Revisions and adjustments in the vast Navy program are to be expected as the various offensive and defensive measures of the war develop at various fronts. On Oct. 30 the Navy Department announced a sweeping revision of its immense shipbuilding program. Contracts or plans for 502 ships of a defensive type were cancelled, and hundreds of new craft for offensive war were to be built instead. Secretary Knox said that orders for 427 destroyer escorts, patrol craft, and submarine chasers placed earlier had been cancelled. The building ways thus released were to be used to construct large numbers of vessels necessary for amphibious operations throughout the world. The Secretary also announced the cancellation of contracts which had been placed with West Coast yards for building three light cruisers, seven destroyers, and nine fleet tugs. These ships will be built in East Coast yards to free the Pacific yards for repairing damaged war vessels. Actual work had not been started on these vessels or any of the 427 cancelled vessels.

Rear Admiral Edward L. Cochrane, Chief of the Bureau of Ships, announced on Dec. 9 that the Navy was reshaping its shipbuilding program to suit the amphibious campaigns planned in the Pacific in the coming year. The program calls for 65,000 landing craft of which some 20,000 had already been built, 25,000 are being built, and action was pending in Congress for another 20,000. Admiral Cochrane also stated that many of the destroyer escorts were being built for service in the Pacific. These ships were originally intended to defeat the submarine menace in the Atlantic. This menace, according to a joint statement issued by President Roosevelt and Prime Minister Churchill on Dec. 9, had been reduced in November to the lowest figure since May 1940. The number of U-boats destroyed in November exceeded the number of allied merchant ships they destroyed, as was the case in the three previous months.

COMBATANT SHIPS COMPLETED IN 1943

In less than 11 months, Secretary of the Navy Knox announced on Nov. 26, 1943, the United States Navy combatant ships had been doubled in number, including more than 40 aircraft carriers built in the past year. The fleet now had 817 fighting ships of all types. This total does not include submarine chasers, corvettes, landing, and mine craft. The first destroyer escort, intended primarily for anti-submarine work, was completed in February 1943, when the goal of 260 such ships was fixed. That quota was 90 per cent filled and would be exceeded before the end of the year. These vessels were being completed at the rate of 40 per month.

SALVAGING OF THE USS LAFAYETTE

One of the dramatic feats of engineering completed during the year by the Bureau of Ships, Navy Department, was the salvage of the U.S.S. *Lafayette* (*Normandie*). The *Normandie* was built for the Compagnie Generale Transatlantique to meet the competition of the new fast liners in the North Atlantic service.

The general characteristics of the *Normandie* were as follows: length overall, 1,029 feet; beam 119½ feet; gross tonnage, 79,280; and approximately 53,000 tons displacement in the design condition. Steady running speed 28 knots; top speed slightly more than 30 knots. The main propulsion plant was turbo-electric drive delivering about 160,000 shaft horsepower.

On the afternoon of Feb. 9, 1942, just before her completion as a troop transport, a fire broke out which swept through the *Normandie's* three upper decks in little more than one hour. In the attempt to control the fire, large quantities of water were poured into the ship. The addition of this free water gradually destroyed stability and in the early morning of Feb. 10 the ship capsized, coming to rest on the port side at an angle slightly more than 79°.

The question as to whether or not the ship should be salvaged was decided in the affirmative on May 1, 1942, by a special committee appointed by the Secretary of the Navy on April 15, 1942. A salvage organization was set up by the Ships Salvage Branch of the Bureau of Ships, using such key personnel from Merritt-Chapman and Scott Corporation as could be spared for the job.

Included in some 600 to 800 men regularly employed on the salvage operations were about 75 divers. Work proceeded on the removal of topside weights, shoring of decks, closing various openings below water, installation of timber and concrete bulkheads, installation of 40 ten-inch salvage pumps, 28 six-inch salvage pumps, and 25 three-inch pumps and piping, and numerous other tasks until they were completed by August 1943.

Righting operations began on Aug. 6 and the pumping phase, involving the removal of about 100,000 tons of water, was practically completed by Aug. 15. The ship listed about 30 degrees at this stage owing to various off-center weights resulting from the salvage operations. After the removal of these weights the vessel was upright again, and on Nov. 3, 1943 was towed to a drydock to be refitted for service in the Navy.

The cost of the salvage up to June 1, 1943 was $3,050,000. The total cost was probably close to the estimated figure of about $3,750,000.

ADMINISTRATION OF VETERANS AFFAIRS

By Frank T. Hines

Administrator, Veterans Administration

ORGANIZATION

As of June 30, 1943, the organization of the Veterans Administration consisted of the following officers: Frank T. Hines, Administrator of Veterans Affairs; Adelbert D. Hiller, Executive Assistant to the Administrator; Harold W. Breining, Assistant Administrator in charge of finance and insurance; Omer W. Clark, Assistant Administrator in charge of compensation, pensions, and vocational rehabilitation; George E. Ijams, Assistant Administrator in charge of medical and domiciliary care and treatment, construction and supplies; Edward E. Odom, Solicitor in charge of legal activities; and Robert L. Jarnigan, Chairman of the Board of Veterans Appeals.

INSURANCE

The United States Government Life Insurance Fund is a trust fund administered by the Government as trustee for the sole benefit of the policyholders. The Government derives no profit whatever from the administration of this fund as it may be used only for the payment of claims under United States Government life insurance contracts and as dividends to the policyholders themselves. All premiums paid by the policyholders, all interest received from policy loans, investments, etc., are covered into this fund in the United States Treasury.

As of June 30, 1943, there were in force 586,590 United States Government life (converted) insurance policies aggregating $2,499,603,842 of insurance. Monthly payments averaging $35.11 were being paid to 10,808 policyholders for permanent and total disabilities. During the fiscal year ended June 30, 1943, there were approved 9,010 applications aggregating $63,348,862. The actual disbursements made from this fund during the fiscal year 1943 totaled $39,814,670.28.

Yearly renewable term insurance was granted to all veterans of World War I who made application for this form of benefit within 120 days after induction into service. The amount of term insurance was limited to $10,000 for each veteran. Monthly payments on term insurance policies are based on $5.75 per $1,000 of insurance in force at such time as award for disability or death is made. As of June 30, 1943, monthly payments were being made to 9,717 permanently and totally disabled veterans and to the beneficiaries of 4,683 deceased veterans. An analysis of the disabilities for which term insurance was being paid shows 54.47 per cent for neuropsychiatric diseases; 19.86 per cent for tuberculosis; and 25.67 per cent for general medical and surgical conditions.

Automatic insurance was granted to those veterans of World War I who were disabled or who died within 120 days after being inducted into service and before application for term insurance was made. The amount of automatic insurance was limited to $5,000. As of June 30, 1943, monthly payments were being made to 224 veterans and to the beneficiaries of 19 deceased veterans. These payments are fixed by law at $25 per month.

The disbursements for term and automatic insurance during the fiscal year 1943 totaled $14,489,489.50 including $5,345,996.16 transferred to the United States Government Life Insurance Trust fund for cases traceable to extra hazards of military or naval service, making a net disbursement of $9,143,493.34 for term and automatic insurance.

Active Service Insurance.—The National Service Life Insurance Act, approved October 8, 1940, authorized the issue of a new type of insurance to certain persons then in the active service of land and naval forces (including Coast Guard) and those thereafter entering on active duty, including persons inducted under the Selective Training and Service Act of 1940. The insurance was available to those persons then on active duty, and if in good health, upon application made within 120 days from the date of the approval of the act. As to those who entered service after that date, application must be made within 120 days from date of entry into service. This insurance is limited to $10,000 for each veteran and is payable only in the event of the death of the insured while the policy is in force. During the fiscal year 1943 there were approved 8,083,330 applications aggregating $59,696,515,000 of insurance. The total number of applications approved to June 30, 1943, was 9,565,088 amounting to $66,506,754,500 insurance.

An act to promote and strengthen the national defense by suspending enforcement of certain civil liabilities of certain persons serving in the military and naval establishments, including the Coast Guard, was approved Oct. 17, 1940. Article IV of the act provides that the Government will, on application by the insured, guarantee to commercial insurance companies premiums on insurance carried with such companies by persons in active service. Through June 30, 1943, 67,054 applications for insurance benefits under this act had been received, of which 53,080 representing $127,575,186.53 of insurance had been approved and 9,996 representing $22,053,494.32 insurance had been disapproved.

GUARDIANSHIP

The Veterans' Administration maintains a close supervision of all guardianship activities for incompetent veterans and minor beneficiaries. An effort has been made to utilize so far as possible the services of relatives as guardians of the person and the services of banks and trust companies as guardians of the estate of wards. As of June 30, 1943, the total guardianship load was 78,064 wards of whom 43,172 were incompetents and 34,892 minors. The value of estates of all wards approximated $155,709,290.63, most of which was legally invested or deposited in banks protected by Federal Deposit Insurance.

PENSIONS AND COMPENSATION

Yellow Fever Experiments.—*Participants.* An act approved Feb. 28, 1929, recognized the high public service rendered by Major Walter Reed and those associated with him in the discovery of the cause and means of transmission of yellow fever. This act, in addition to establishing a roll of honor, granting medals, etc., authorized a monthly payment of $125 to each of 17 designated persons during the remainder of their lives. As of June 30, 1943, nine persons were receiving this benefit. The disbursements for this type of benefit during the fiscal year totaled $13,500.

Revolutionary War.—*Veterans.* The last pensioner was Daniel F. Bakeman who died at Freedom, N. Y., April 5, 1869, at the age of 109 years.

Deceased Veterans. The last widow of a veteran to receive pension was Esther S. Damon of Plymouth County, Vermont. Mrs. Damon died Nov. 11, 1906, at the age of 92 years.

War of 1812.—*Veterans.* Hiram Cronk, the last veteran pensioner died May 13, 1905, at Ava, N. Y., at the age of 105 years.

Deceased Veterans. The last widow of a veteran to receive pension was Caroline King of Cheektowaga, N. Y. Mrs. King died June 28, 1938, at the age of 89 years.

As of June 30, 1943, the sole remaining pensioner was Esther Ann Hill Morgan of Independence, Ore., a dependent daughter of John Hill, deceased, private in Clark's and McCumber's Companies, New York Militia. Mrs. Morgan was born March 9, 1857, and receives $20 a month by special act of Congress.

Mexican War.—*Veterans.* This war ended May 30, 1848. The last veteran pensioner was Owen Thomas Edgar, an apprentice on board the U.S.S. *Potomac, Experiment, Pennsylvania,* and *Alleghany,* U. S. Navy. Mr. Edgar died Sept. 3, 1929, at Washington, D. C., age 98 years.

Deceased Veterans. On June 30

1943, pensions were being paid to 81 widows and one child of veterans of this war. This represents a decrease of 13 in the number of dependents on the roll as of June 30, 1942. Disbursements made during the fiscal year 1943 totaled $49,324.

Indian Wars.—*Veterans.* On June 30, 1943, pensions were being paid to 1,475 veterans, representing a decrease of 238 in the number on the roll since June 30, 1942. The average age of the 1,475 veterans was 81 years. Disbursements during the fiscal year 1943 totaled $1,156,235.90.

Deceased Veterans. As of June 30, 1943, pensions were being paid to the dependents of 3,319 deceased veterans. The number of dependents totaled 3,353, classified as follows: 3,293 widows, 50 children, and 10 others. Disbursements during the fiscal year 1943 totaled $1,252,618.21.

Civil War.—*Veterans.* Out of a total of 2,213,365 that served in the Union forces in the Civil War which terminated 78 years ago, pensions were being paid to 625 veterans on June 30, 1943. The average age for this group was 98 years. During the fiscal year 1943 the number on the pension roll decreased 350. Disbursements during this fiscal period totaled $870,564.63.

Deceased Veterans. On June 30, 1943, pensions were being paid to dependents of 32,552 deceased veterans as compared with 37,714 on June 30, 1942. These dependents totaled 32,704 and were classified as follows: 30,708 widows and remarried widows, and 1,996 children. Of the 32,552 death cases there were 4,312 cases in which the monthly payment was $30, 24,307 cases in which the beneficiary received $40 per month as provided by law for widows of the attained age of 70 years, 158 cases in which $50 per month was being paid to widows who were wives of veterans during their military service, 2,943 cases in which the dependents received pensions by special acts of Congress, and 832 cases in which the dependents were paid under general laws and service laws at miscellaneous rates because of the death of the veteran from causes due to military service. Disbursements during the fiscal year 1943 totaled $15,682,850.46.

Spanish American War.—*Veterans.* On June 30, 1943, pensions were being paid to 140,093 veterans. Of this number 138,683 were receiving pensions for disabilities of nonservice origin or for age, 1,346 for service-connected disabilities and 64 were special act cases. A study of the age of these pensioners shows that 74 per cent were between the ages of 60 and 70 as of the above date. The number of veterans on the roll decreased 6,793 during the fiscal year 1943. Disbursements during the fiscal period amounted to $99,457,260.43.

Deceased Veterans. As of June 30, 1943, pensions were being paid to the dependents of 64,391 deceased veterans as compared with 62,947 on June 30, 1942. The number of dependents totaled 68,039 and were classified as follows: 62,380 widows, 5,437 children, 217 parents, and five others. During the fiscal year 1943 the amount paid in pensions to these dependents totaled $23,531,288.05.

Regular Establishment.—*Veterans.* As of June 30, 1943, the number of veterans receiving pensions as a result of disabilities incurred in service in time of peace totaled 43,197 as compared with 41,583 on June 30, 1942. The disbursements for this class of pensioners during the fiscal year 1943 totaled $17,162,826.52.

Deceased Veterans. On June 30, 1943, pensions were being paid to the dependents of 13,661 deceased veterans whose death was determined to be the result of disease or injury originating in line of duty in the military or naval service in time of peace. There was an increase of 1,732 death cases during the fiscal year 1943. The number of dependents receiving pensions as of June 30, 1943, totaled 20,512 consisting of 6,470 widows, 5,833 children, 8,199 parents, and 10 others. Disbursements during the fiscal year 1943 totaled $5,649,537.27.

World War I.—*Veterans, service-connected.* During the fiscal year 1943, the number of veterans receiving compensation for disabilities directly or presumptively connected with service decreased from 348,103 to 341,505. An analysis of the major disabilities of service connected veterans on the pension roll June 30, 1943, shows that 19.78 per cent were neuropsychiatric diseases, 15.28 per cent were tubercular ailments, and 64.94 per cent were general medical and surgical conditions. During the fiscal year 1943, the amount of $165,865,297.31 was paid in compensation to veterans with service-connected disabilities.

Veterans, nonservice-connected. As of June 30, 1943, pensions were being paid to 84,878 totally disabled veterans whose disabilities were not of service origin. This is an increase of 3,218 in the pension roll during the fiscal year 1943. Of the veterans on the roll 23 per cent were over 55 years of age. Disbursements during the fiscal year 1943 for pensions to veterans with nonservice-connected disabilities totaled $37,879,290.87.

Emergency, Provisional, Probationary, or Temporary Officers. As of June 30, 1943, there were 2,666 such officers entitled to retirement pay, of whom 2,543 were receiving full pay and 38 partial pay. Of the partial forfeitures, 19 were due to the beneficiary being an enlisted man of the Regular Army, and 19 to the application of Section 212 of Public No. 212, 72nd Congress, approved June 30, 1932, which provided that in case the salary of any retired officer (except those whose disability was incurred in combat with an enemy of the United States) in the employ of the Federal Government together with the retirement pay exceeds $3,000 per annum, the retirement pay should be reduced or discontinued so that the sum of the two shall not exceed $3,000. In the remaining 85 cases, complete forfeitures were made for the following reasons: 48 because of Section 212 cited above; 30 by reason of active duty in the Federal military service, and seven because of incompetency—estate over $1,500. Disbursements for retirement pay during the fiscal year 1943 totaled $4,362,639.47. Of the 2,666 officers entitled to retirement pay on June 30, 1943, 2,579 served in the Army, 71 in the Navy, and 16 in the Marine Corps.

Deceased veterans, service-connected. On June 30, 1943, compensation was being paid to the dependents of 89,925 veterans who died in service or as a result of diseases or injuries incurred in service. These dependents totaled 120,317 and were classified as follows: 30,728 widows, 20,869 children, and 68,720 parents. Disbursements during the fiscal year 1943 totaled $51,660,113.69.

Deceased veterans, nonservice-connected. An act approved June 28, 1934, as amended July 19, 1939, authorized the payment of compensation to the widows and children of deceased veterans who at the time of death, were suffering from a disability of service origin but who died as a result of a disability not incurred in service. On June 30, 1943, compensation was being paid to the dependents of 26,441 such veterans. These dependents were classified as follows: 22,817 widows and 30,992 children. Disbursements during the fiscal year 1943 totaled $11,189,351.41.

World War II.—*Living veterans, service-connected.* On June 30, 1943, there were 7,037 veterans in receipt of pensions for disabilities incurred in line of duty on or after Dec. 7, 1941. The average age of these veterans was 28 with the greatest incidence of disability at 25. Disbursements to this group during the fiscal year 1943 totaled $2,589,141.75.

Deceased veterans, service-connected. As of June 30, 1943, pensions were being paid to the dependents of 8,136 veterans who died as a result of disease or injury originating in line of duty in the military or naval service on or after Dec. 7, 1941. The majority of these 8,136 veterans were presumably single men at time of death since pension was paid to parent or parents alone in 4,572 instances. In 3,072 cases pension was paid to widow and/or children (no parents) and in the remaining 492 cases to widows, and/or children, in addition to parents. Disbursements to this group during the fiscal year totaled $3,770,263.93.

Reserve Officers.—On June 30, 1943, there were 181 reserve officers receiving retirement pay for service-connected disabilities as provided under Public 18, 76th Congress, approved April 3, 1939. Disbursements during the fiscal period totaled $231,475.97.

GRAND TOTAL—PENSIONS AND COMPENSATION

The following table shows the number on the rolls as of June 30, 1943, and the net disbursements during the fiscal year 1943 from the appropriations "Army and Navy Pensions."

War	On Roll June 30, 1943	Disbursements Fiscal Year 1943
Yellow fever experiments—participants	9	$ 13,500.00
War of 1812—deceased veterans	1	240.00
Mexican War—deceased veterans	82	49,324.00
Indian Wars—total	4,794	2,408,854.11
Living veterans	1,475	1,156,235.90
Deceased veterans	3,319	1,252,618.21
Civil War—total	33,177	16,553,415.09
Living veterans	625	870,564.63
Deceased veterans	32,552	15,682,850.46
Spanish American War—total	204,484	122,988,548.48
Living veterans	140,093	99,457,260.43
Deceased veterans	64,391	23,531,288.05
Regular Establishment—total	56,858	22,812,363.79
Living veterans	43,197	17,162,826.52
Deceased veterans	13,661	5,649,537.27
World War I—total	545,330	270,956,692.75
Living veterans	428,964	208,107,227.65
Service connected	341,505	165,865,297.31
Nonservice connected	84,878	37,879,290.87
Emergency officers, etc	2,581	4,362,639.47
Deceased veterans	116,366	62,849,465.10
Service connected	89,925	51,660,113.69
Nonservice connected	26,441	11,189,351.41
World War II—total	15,173	6,359,405.68
Living veterans	7,037	2,589,141.75
Deceased veterans	8,136	3,770,263.93
Reserve officers—living veterans	181	231,475.97
Grand total—pensions and compensation	860,089	442,373,819.87
Living veterans	621,572	329,574,732.85
Deceased veterans	238,508	112,785,587.02
Participants, yellow fever experiments	9	13,500.00

VOCATIONAL REHABILITATION

Public No. 16, 78th Congress, approved March 24, 1941, provided vocational rehabilitation to any person who served in the active military or naval service at any time after Dec. 6, 1941, and prior to the termination of World War II, who (1) was honorably discharged from such service; (2) has a disability incurred in or aggravated by such service for which pension is payable or would be but for the receipt of retirement pay; and (3) is in need of vocational rehabilitation to overcome the handicap of such disability. As of June 30, 1943, only a few applications for training had been received.

MEDICAL

Hospitalization.—On June 30, 1943, the Veterans' Administration was operating hospital facilities at 93 locations in 45 States and the District of Columbia. The total number of beds in these facilities was 80,219, of which 61,764 were for hospital treatment and 18,455 for domiciliary care. In addition, 1,693 hospital beds in other government facilities were being utilized.

On June 30, 1943, the hospital load was 56,897 patients. Of this number 56,641 were United States veterans classified by service as follows: World War I, 45,653; World War II, 5,132; Spanish American War, 2,871; Civil

War, 17; all other wars, expeditions, and occupations, 48; and Regular Establishment, 2,920. Other hospital patients included 24 allied veterans of World War I, and 232 miscellaneous beneficiaries. Of the 56,641 United States veterans, 74.98 per cent were receiving treatment for disabilities not of service origin. There were 54,013 United States veterans in facilities controlled by the Veterans' Administration, 1,680 in other government hospitals, and 948 in state or civil institutions. Of the patients in hospitals June 30, 1943, 64 per cent were receiving treatment for neuropsychiatric diseases, 27.18 per cent for general medical and surgical conditions, and 8.82 per cent for tuberculosis. Admissions during the fiscal year 1943 included 160,234 United States veterans, 92 allied veterans, 52 employees of the Civilian Conservation Corps and Works Progress Administration, and 7,050 miscellaneous beneficiaries. Of the 160,234 United States veterans, admissions were authorized for 9,835 for observation and treatment of tuberculosis, 9,952 for psychotic or mental diseases, 12,642 for other neurological disorders, and 127,805 for general medical and surgical conditions.

During the fiscal year 1943, 216,485 United States veterans were under hospitalization. Of this number, 159,844 were discharged after an average of 80.7 in-patient days. Patients who remained until the completion of treatment numbered 129,781 or 81.19 per cent of the total discharges. Approximately 79 per cent of the United States veterans discharged during this fiscal period had been under treatment for general medical or surgical conditions, 15 per cent for neuropsychiatric diseases, and 6 per cent for tuberculosis.

Deaths in hospitals during the fiscal year 1943 totaled 13,483 of which number 73.06 per cent occurred among patients under treatment for general medical conditions, 14.26 per cent from tuberculosis, and 12.68 per cent for neuropsychiatric diseases.

Domiciliary Care.—At the close of the fiscal year 1943 the veteran population reported as present in domiciliary status in facilities under the control and jurisdiction of the Veterans' Administration totaled 8,997. The percentage distribution of the above veteran patients by wars were: World War I, 89.92 per cent; Spanish American War, 6.63; World War II, 0.51; other wars, expeditions and occupations, 0.12 per cent; and peacetime service in the Regular Establishment, 2.82 per cent. An analysis of the causes of disability of these veterans shows 5,582 to be general medical and surgical conditions; 3,273, neuropsychiatric diseases; and 142 tubercular ailments. Approximately four-fifths of the domiciled veterans on June 30, 1943, were under care in facilities located in California, Kansas, New York, Ohio, Tennessee, Virginia, and Wisconsin.

During the fiscal year 1943 there were 16,729 veterans admitted for domiciliary care. Of this number 14,789 or 88 per cent had served in World War I and 1,224 or 7 per cent in the Spanish-American War. Approximately 93 per cent of the admissions were for disabilities not of service origin. Of the veterans admitted for domiciliary care during this period, 69 per cent were disabled by general medical and surgical conditions, 29 per cent by neuropsychiatric diseases, and 2 per cent by tubercular ailments.

During the fiscal year 1943, 20,816 veterans were discharged after an average of eight months domiciliary care. Deaths among domiciled veterans during this period totaled 78, the principal causes of which were diseases of coronary arteries and angina pectoris, diseases of the myocardium, and syphilis, which collectively were responsible for 60 per cent of the deaths.

The Federal Government is required to reimburse state or territorial homes for disabled soldiers at the rate of $240 per year for each person domiciled therein who is eligible for similar care in facilities controlled by the Veterans Administration. During the fiscal year 1943 an average of 4,898 such persons was cared for in these homes, thereby creating an obligation of over $1,175,500 on the part of the Federal Government.

Dental Care.—During the fiscal year 1943 dental care was provided for 31,460 hospital patients, 6,831 domiciliary members, and 2,976 out-patients in clinics maintained by the Veterans Administration, at an actual cost of $1,162,184. Had these services been secured through the medium of private practitioners, the cost would have approximated $1,663,149. During this fiscal period, 30,669 artificial dentures were made and 6,665 repaired in dental clinics of the Veterans Administration. Dental treatment was authorized to private practitioners for 1,026 veterans, at a cost of $43,797 during the same period.

Out-patient Examinations and Treatments.—During the fiscal year 1943, there were 812,992 physical examinations for out-patient purposes made in field facilities. Of these examinations, 98 per cent were medical and two per cent dental. Treatments furnished during the year for out-patient purposes totaled 802,623 of which 92 per cent were medical and eight per cent dental.

FINANCE

The actual net disbursements from appropriations and trust funds of the Veterans Administration (including adjustments on lapsed appropriations) during the fiscal year 1943 were as follows:

	Disbursements
Appropriations	
Salaries and Expenses	$111,401,127.42a
Emergency fund for the President, national defense (Allotment to Veterans Administration)	2,968,212.36
Printing and binding	292,792.13
Hospital and domiciliary facilities and services, Veterans Administration	2,694,330.81
Public Works Administration Act of 1938 (allotment to Veterans Administration 1938–43)	26,158.49
Emergency relief (transfers from W.P.A.) 1941–43	139,811.86
Army and navy pensions	442,373,819.87
Military and naval insurance (World War I)	14,489,489.50d
National service life insurance World War II	18,295,929.69b
Adjusted Service and Dependent Pay (World War I)	167,728.48
Vocational Rehabilitation (World War I)	−3,452.55c
Military and naval family allowance	−2,680.23c
Miscellaneous	260.35
Trust funds	
U. S. Government life insurance fund	39,814,670.28
National service life insurance (World War II)	6,549,351.07
Adjusted service certificates (World War I)	996,953.80
Army allotments	39.00
General Post Fund	34,156.86
Funds due incompetent beneficiaries	89,187.24
Personal funds of patients, Veterans Administration	3,078,508.21
Total	643,406,394.64

(a) Includes adjustment on lapsed appropriations—Medical and hospital services, credit of $215.78.

(b) Represents net amount transferred by voucher to National service life insurance trust fund for payment of claims traceable to the extra hazards of military or naval service. Does not include $12,849,767.15 transferred by Transfer Appropriation Warrants from July 1, through Aug. 31, 1942.

(c) Credits to appropriations.

(d) Includes $5,345,996.16 transferred to U. S. Government Life Insurance trust fund for hazardous cases.

Note: "Salaries and expenses," "Public Works Administration," and "Emergency Relief" include net disbursements of $633,879.08 from allotments made to other government agencies. Allotments were made to the War Department and Federal Works Agency.

WATERWAYS AND HARBORS

By Eugene Reybold

Major General, U. S. A.; Chief of Engineers, War Department

INLAND WATERWAYS

The principal canals and inland navigable waterways of the United States include the Great Lakes, the Mississippi River system, the Illinois Waterway, the New York State Barge Canal system, the Atlantic Intracoastal Waterway extending from Trenton, N. J., to the Florida Keys, the Gulf Intracoastal Waterway extending from Apalachee Bay, Florida, to the vicinity of the Mexican border, the San Joaquin-Sacramento River system in California, and the Columbia River system in the Northwest.

The Great Lakes have natural deep water except in the connecting channels which have been artificially deepened where necessary to accommodate deep draft vessels. These connecting channels are the St. Mary's River and Canal between Lake Superior and Lake Huron, the Straits of Mackinac connecting Lake Huron with Lake Michigan, the St. Clair River and Lake and the Detroit River between Lake Huron and Lake Erie, the Welland Canal joining Lake Erie and Lake Ontario, as improved by Canada, and the St. Lawrence River to the sea.

The Mississippi River System embraces the river proper, the Red, Arkansas, Tennessee, Missouri, Illinois, Ohio, Monongahela, Allegheny, and Kanawha rivers and other streams. The Mississippi River has a channel suitable for deep-draft, ocean-going vessels upstream to Baton Rouge, and thence a channel for modern barge navigation to Minneapolis, Minnesota, and in its principal tributaries which include the Ohio River and the Missouri River. The Illinois River and waterway to Lake Michigan has a barge channel which connects the Great Lakes with the Mississippi River system. An additional outlet from the Great Lakes to the Sea is *via* the Oswego and Erie branches of the New York State Barge Canal between Lake Ontario and the Hudson River.

The Atlantic Intracoastal Waterway and the Gulf Intracoastal Waterway provide a protected channel for barge and other light-draft navigation following coastal sounds, bays, rivers, and artificial channels. The San Joaquin-Sacramento River system, which has an outlet to the sea through San Francisco Bay, provides a deep-draft channel to Stockton, Calif. on the San Joaquin River and a moderate-draft channel to Sacramento, Calif. on the Sacramento River, and in addition other channel improvements. The Columbia River has a deep-draft channel to Portland, Ore. and to Vancouver, Wash. and depths suitable for commercial vessel traffic to the head of the pool formed by Bonneville Dam and thence depths for barge navigation upstream to and including the Snake River.

WATERWAY AND HARBOR IMPROVEMENTS

In conformity with national policy governing wartime construction in the interest of conservation of manpower, equipment, and materials, the new work program on river and harbor projects for navigation and allied purposes was restricted to improvements having direct importance to the war effort. Improvements and maintenance operations were carried out on 323 separate projects of which six projects were fully completed. During the fiscal year ended June 30, 1943, the principal items of new work operations included the continuation of dredging and rock removal in the Kennebec River from the mouth to Bath, Me.; removal of ledge rock and dredging in the main channel of Portland harbor, Maine; dredging of anchorage areas in New York harbor; dredging and rock removal in the Kill Van Kull section of the New York and New Jersey channels; rock removal in the Delaware River channel leading from Philadelphia to the sea; bank protection work in the deep cut section of the Chesapeake and Delaware Canal; enlarging channel dimensions in sections of the Sabine-Neches waterway; deepening of the final middle section completing the through waterway extending from Lake Michigan to Sturgeon Bay, Michigan; construction of the MacArthur Lock in the St. Mary's River at Sault Ste. Marie, Mich. which was completed during August 1943; continuation of construction of the power house extension at the Bonneville Dam on the Columbia River, the power generating units previously completed being in operation throughout the year; completion of the initial power generating unit at Fort Peck Dam, Montana, the production of power commencing on July 1, 1943; widening of a section of the Cuyahoga River, Ohio, and enlargement of the turning basin; closing of the gap in the west breakwater at Oswego harbor, New York; continuation of construction of the breakwater extension at Los Angeles and Long Beach harbors; and construction of a breakwater extending from Waadah Island to the westerly shore of Neah Bay, Washington.

In addition to the maintenance of channels previously completed, and the above-mentioned new work projects, important channel and harbor improvements have also been effected on waterways and at ports on the Atlantic, Gulf, and Pacific coasts, on inland rivers, and on the Great Lakes. These include improvements at Weymouth Back River, Massachusetts; Providence River and harbor, Rhode Island; Connecticut River below Hartford, Conn.; Hudson River, New York; Great Lakes to Hudson River Waterway, New York; Fishing Creek, Maryland; Norfolk harbor, Virginia; Caloosahatchee River and Lake Okeechobee drainage areas, Florida; Southwest Pass and South Pass, Mississippi River, Louisiana; Mississippi River between the Missouri River and Minneapolis, Minn.; Missouri River from the mouth to Sioux City, Ia.; Ohio River; Allegheny River, Pennsylvania; Manitowac harbor, Wisconsin; Calumet harbor and River, Illinois and Indiana; Indiana harbor, Indiana; Illinois Waterway, Illinois; Buffalo harbor, New York; San Pablo Bay and Mare Island Strait, California; and Bodega Bay, California.

INTRACOASTAL WATERWAYS

Extensive dredging operations were executed on the Intracoastal Waterway system, extending along the Atlantic and Gulf coasts, providing a more adequate channel for coastwise barge and other light-draft vessel traffic carrying petroleum products and other essential commodities. A channel of 12 feet or more in depth heretofore authorized has been made available throughout the Atlantic coast section of the waterway from Trenton, N. J. to Jacksonville, Fla. On the Gulf coast section of the waterway, work was actively prosecuted during the fiscal year 1943 on enlargement of the waterway between Carrabelle, Fla., and Corpus Christi, Tex. to provide a depth of 12 feet in accordance with Public Law No. 675, Seventy-Seventh Congress, approved July 23, 1942, which authorized such improvements from Apalachee Bay, Florida, to the vicinity of the Mexican border. Funds were made available by the second Supplemental National Defense Appropriation Act approved Oct. 26, 1942, and work was commenced promptly thereafter. When the scheduled work now under way is completed, a continuous improved waterway having a least depth of 12 feet will be available from Carrabelle, Fla. to Corpus Christi, Tex.

MISSISSIPPI RIVER

The Mississippi River rises in the vicinity of Lake Itasca, Minnesota, and flows in a general southerly direction 2,434 miles to the Gulf of Mexico. From Cape Girardeau, Missouri, to the Gulf of Mexico, the river flows through the fertile lands of an alluvial plain, about 50 miles wide and

600 miles in length. Without levees, some 20,000,000 acres would be subject to overflow by river floods. The principal tributaries of the Mississippi are the Ohio, entering the river at Cairo, Ill.; the Missouri, entering above St. Louis; the Arkansas and the White, entering the lower Mississippi above Arkansas City, Ark.; and the Red, which connects with the lower river in the vicinity of Angola, La. The basins of these tributaries, with that of the upper Mississippi, are the chief sources of flood waters of the lower Mississippi. The entire area drained by the system is about 1,240,000 square miles, equal to 41 per cent of the area of the United States.

MISSISSIPPI RIVER SYSTEM

Works for the improvement of the channel of the river proper have been executed at various places below Cairo and levees built for flood control from Rock Island, Ill. to near Head of Passes, La., 484 miles above to 964 miles below Cairo. Below Cairo, revetment is now in place on 120 miles of river bank, and 35 miles of permeable dikes are complete for bank stabilization and channel regulation. The 2,500-mile levee system now contains over 1,000,000,000 cubic yards of earth, and when completed they will aggregate about 1,200,000,000 cubic yards. The Bonnet Carre spillway structure, completed in 1931, was operated for the first time during the high water of 1937. The Birds Point-New Madrid floodway was also brought into successful operation during that emergency. A navigable channel is available throughout the main river from Minneapolis to the Gulf of Mexico. Below Alton, Illinois, the channel is maintained by open river works. In the 650 miles of river above Alton to Minneapolis, a system of low-head dams and locks provide depths adequate for modern barge navigation. The system of six locks and dams on the Ouachita and Black rivers provide depths of 6½ feet at low water, a distance of 351 miles, from the Red River to Camden, Arkansas. The Red River proper and the Arkansas River have been improved for light-draft navigation throughout a total length of more than 1,000 miles.

Although the authorized channel improvement of the Missouri River has not been fully completed, a navigable channel with minimum depth of six feet was in general available throughout the navigation season from the Mississippi to Kansas City, Mo., with lesser depths obtaining upstream to the head of the channel improvement at Sioux City, Ia. Water impounded by the completed Fort Peck Dam was released to augment the natural stream flow during low water periods in order to provide more adequate channel depths for navigation in the Missouri River and the critical Chain of Rocks section of the Mississippi River near the mouth of the Missouri. The Fort Peck dam, which forms a reservoir with a maximum storage capacity of 19,412,000 acre-feet, also provides protection to the flood plane of the river for many miles downstream by controlling the amount of flood water passing the dam.

NATIONAL FLOOD CONTROL

The general flood control legislation provided, up to December, 1943, authorizations totaling $930,400,000 for the construction of nearly 500 reservoirs and local protection projects widely dispersed throughout the United States, exclusive of the large project authorized separately for the alluvial valley of the Mississippi River.

The projects are integral parts of comprehensive and coordinated plans for the beneficial development of the water resources of the United States, and they provide economic flood protection for a large number of centers of population and for many thousands of acres of rich agricultural lands. Many of the reservoirs are suitable for advantageous development of multiple purpose projects for flood control in combination with hydro-electric power and other water uses.

Work under the Federal program for national flood control was started in 1937, when the first funds for that purpose were appropriated by Congress. By the end of 1943, 44 reservoirs and 101 local protection projects were placed in operation.

The program was thoroughly coordinated with the war effort of the United States. Although all flood control projects, being directly beneficial to the national economy, are directly or indirectly related to the war effort, the only new work initiated in 1943 were three projects determined to have direct value to the prosecution of the war. One of these was a multiple purpose dam and reservoir project to provide flood protection and increased water supply for an important steel producing region, and the other two were local protection projects to give direct flood protection to industries supplying material to the Army and Navy. In 1943 work was continued on two multiple purpose dam and reservoir projects, which were determined necessary to supply additional power for war industries.

In compliance with the Federal policy of curtailing public works not essential to the conduct of the war, all such projects, which were under construction when the Federal policy was announced, have been or are being brought to completion, or to a safe point of suspension as rapidly as possible without interference with work of direct importance to the war and with due regard to the necessity for protecting lives, the work already accomplished, and the Federal investment in that work. In the year preceding the end of June, 1943, nine local protection projects were completed and six reservoirs were placed in operation. Steps were taken to suspend construction work on all or parts of numerous other projects. In many instances, construction of the suspended projects has been carried to a point where substantial amounts of flood protection can be obtained even though the projects will not be fully effective until the construction work is entirely completed.

An act, approved 12 July 1943, authorized the expenditure of $10,000,000 for emergency flood control work made necessary by floods which occurred in the spring of 1943. Although damages from these floods were widespread throughout the United States, the major portion of the damages was confined to Midwestern areas. The work accomplished under the authority of the emergency act includes the repair, restoration, and strengthening of existing levees and other flood control structures, which were threatened or destroyed by the spring floods in numerous localities of the country.

Work is being carried on as rapidly as practicable to complete plans and designs for the remaining portions of the suspended projects and for many additional authorized projects not yet initiated in order that a large scale program of actual construction operations may be ready for initiation without delay at the end of the war. This backlog of economically justified projects will be available to assist in the transition from war activities to a normal peacetime economy.

PERIODICAL PUBLICATIONS

Army and Navy Journal
1701 Connecticut Ave. N.W., Washington, D. C.

Army and Navy Register
511 Eleventh Street N.W., Washington, D. C.

Army Ordnance
706 Mills Building, Washington, D. C.

Cavalry Journal
1624 H Street N.W., Washington, D. C.

Coast Artillery Journal
1115 Seventeenth Street, N.W., Washington, D. C.

Field Artillery Journal
1624 H Street N.W., Washington, D. C.

Infantry Journal
1115 Seventeenth Street N.W., Washington, D. C.

Marine Corps Gazette
United States Marine Corps, Washington, D. C.

Military Engineer
808 Mills Building, Washington, D. C.

Quartermaster Review
1026 17th St. N.W., Washington, D. C.

U. S. Coast Guard Magazine
3 Church Circle, Annapolis, Md.

U. S. Navy Magazine
46 Burns St. N.E., Washington, D. C.

Waterways Journal
1605 Chemical Building, St. Louis, Mo.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

SERVICE SOCIETIES

American Legion, The, National Headquarters, 777 N. Meridian St., Indianapolis, Ind.

American Society of Naval Engineers, Navy Bldg., Constitution Ave., N.W., Washington, D. C.

Army Ordnance Assn., Mills Bldg., 17th St. and Pennsylvania Ave., Washington, D. C.

Association of Military Surgeons of the United States, Army Medical Museum, Washington, D. C.

Chemical Warfare Service, Edgewood Arsenal, Maryland.

Navy League of the United States, Inc., Mills Bldg., Washington, D. C.

Quartermasters' Assn. of the United States, 1026 17th St., N.W., Washington, D. C.

Reserve Officers' Assn. of the United States, 1726 Pennsylvania Ave., N.W., Washington, D. C.

Society of American Military Engineers, Mills Bldg., Room 808, Washington, D. C.

Society of Naval Architects & Marine Engineers, 29 W. 39th St., New York City.

United States Cavalry Assn., 1624 H St., N.W., Washington, D. C.

United States Field Artillery Assn., 1218 Connecticut Ave., N.W., Washington, D. C.

United States Infantry Assn., 1115 17th St., N.W., Washington, D. C.

United States Naval Institute, Annapolis, Md.

PATRIOTIC AND HEREDITARY

Colonial Dames of America, 421 E. 61st St., New York City.

Daughters of 1912, National Society, U. S., 1461 Rhode Island Ave., N.W., Washington, D. C.

General Society of Colonial Wars, 196 Beacon St., Boston, Mass.

General Society of Mayflower Descendants, 120 E. 71st Street, New York City.

Military Order of Foreign Wars of the U. S., 15 Broad St., New York City.

Military Order of the Loyal Legion of the U. S., 1805 Pine Street, Philadelphia, Pa.

Military Order of the World War, 1700 Eye St., N.W., Washington, D. C.

National Security League, 45 W. 45th St., New York City.

National Society of the Daughters of the American Revolution, Memorial Continental Hall, Washington, D. C.

National Society of the Sons of the American Revolution, 1227 16th St., N.W., Washington, D. C.

Naval and Military Order, Spanish-American War Veterans, 184 State House, Boston, Mass.

Pilgrim Society, Pilgrim Hall, Court St., Plymouth, Mass.

Society of the Cincinnati, Inc., 2118 Mass. Ave., Washington, D. C.

Sons of Confederate Veterans, 609 Law Bldg., Richmond, Va.

Sons of Union Veterans of the Civil War, Colonial Trust Bldg., Reading, Pa.

United Confederate Veterans, 1528 Lowerline St., New Orleans, La.

United Spanish War Veterans, Inc., 40 G. St., N.E., Washington, D. C.

Veterans of Foreign Wars of the U. S., Broadway at 34th St., Kansas City, Mo.

PART FOUR

ECONOMICS AND BUSINESS

DIVISION X

BUSINESS AND FINANCE

ECONOMIC AND BUSINESS CONDITIONS

BY S. S. HUEBNER
PROFESSOR, UNIVERSITY OF PENNSYLVANIA

BUSINESS OCCASIONED BY WAR DEMANDS

The 1942 account explained that "for 1942 the trend continued steadily upward, nearly all of the leading business indices showing a considerable gain over 1941, and with the highest levels again well maintained to the end of the year." In 1943 the year either maintained or exceeded the extraordinary record of 1942 along nearly all important lines, and declines were shown in only a few instances.

The iron and steel business operated throughout the year at virtually full capacity, with ingot production reaching an all-time high record, and with shipments of finished steel products remaining but slightly below the high record of 1942. Railroad freight traffic was somewhat larger than for the banner year of 1942. Revenue freight car loadings fell short of the 1942 record by only about 1 per cent, but revenue ton-mileage, a better index, exceeded 1942 by 13.6 per cent. Electric output was the largest on record consistently week by week, the weekly output exceeding 1942 by at least 16 per cent. Bank clearings maintained a very high level throughout the year, and at the close exceeded those of the previous year by about 8.8 per cent (outside of New York City) and 15.4 per cent for the nation as a whole, inclusive of New York City. Food production showed an increase of about 5 per cent as compared with 1942, with an increase in the price of farm products from 112 to 121.8 (Bureau of Labor Statistics). For other leading commodities as a whole, price changes were trivial, except with respect to raw materials where the price rose from 104.7 to 112.1.

The automotive industry, which had practically been wholly converted to the production of war equipment during 1942, increased its annual output of war equipment during 1943 to approximately $10,000,000,000, or nearly double that of the preceding year. Enormous increases in production, as will be indicated later, also occurred in the maufacturing of machinery, transportation equipment, plate glass, non-ferrous metals and products, meat packing, and petroleum refining, while moderate increases occurred in most other lines of manufacture. Moderate decreases were shown only in textiles, newsprint, leather products, tobacco products, and bituminous coal. As also explained later, exceptionally large payroll increases occurred in the iron and steel, electrical, machinery, transportation equipment, automotive, non-ferrous metal, chemical, and rubber businesses. In only one important line, namely, leather products (as reported by the *Federal Reserve Bulletin*) was there a decrease, but only to a trivial extent.

Only one vital industry not included in the *Federal Reserve Bulletin* list, namely, building construction, seems to be a shining example out of line with the general business trend, and owing largely to governmental regulations. Here the close of 1943, in comparison with the close of 1942, showed decreases of 39.2 per cent in new residential construction, 69.2 per cent in new non-residential construction, and 19.1 per cent in additions, alterations, and repairs. It should also be noted that the commercial failure record of 1943 showed a decided improvement over 1942, despite the fine showing of that year. For the first nine months, the number of business failures amounted to only 2,752, as compared with 7,641 for the same period of 1942, and the liabilities involved were only $37,000,000 as contrasted with $81,000,000, but again, as explained in 1942, "sight must not be lost of the fact that a very large part of the year's splendid volume of business activity is to be attributed to war orders, as distinguished from a natural normal business demand."

The security market also showed moderate improvement over that of the preceding year, closing prices at the end of 1943 showing an appreciation in value of about 20 per cent as compared with the closing price of the year before. All leading groups of stocks—railroads, industrials, and public utilities—shared in this rise substantially. (See "The Security and Money Markets.") Investment bonds appreciated about 4 per cent during the year and remained consistently at an exceptionally high average level. Along with the increase in stock values, there was also a doubling in the volume of share transactions, although the year's total was still so small as to indicate a substantially stagnant market. Total corporate dividends during the first three-quarters of the year (latest available) exceeded those of the corresponding 1942 period by 0.5 per cent. Large increases in dividend payments were made in industries favorably affected by war conditions, such as the amusement, aviation, business and office equipment, farm machinery, railroad, rubber, and shipbuilding and operating groups. Moderate decreases occurred in other groups adversely affected by the war. The increases, however, overbalanced the decreases, and left a total dividend distribution slightly larger than was the case during the previous year.

FOOD PRODUCTION

Compared with 1942, the 1943 food production record shows an increase of about 5 per cent. This showing may be regarded as satisfactory in view of the prevailing handicaps occasioned by the war, such as wartime controls, the difficulty of obtaining equipment, transportation difficulties, and the scarcity of farm labor. Moreover, severe drought conditions also prevailed in certain sections of the country during the crop-growing season. Despite all of the difficulties, however, it is estimated that the total volume of 1943 food production will exceed that of 1942 by about 5 per cent. To quote the *Guaranty Survey* (Sept. 28, 1943):

"Total food production in the United States this year will be 5 per cent larger than in 1942 and 32 per cent above the 1935-39 average, according to the latest estimate of the Department of Agriculture, based on further improvement during August in prospects for food and feed crops. Despite this improvement, the production of food crops is expected to be 9 per cent smaller than last year. The prospective decline is more than offset, however, by the likelihood of a 10 per cent increase in livestock production, due mainly to a rise in the output of pork that is estimated at 20 to 25 per cent. The output of dairy products is expected to be about as large as last year.

"Translating the production figures into terms of civilian food supply, the Department of Agriculture estimates that the amount available per capita will be only slightly larger than the average for 1935-39. About one-fourth of the total output will go to supply war requirements, including the needs of our armed forces and lend-lease shipments to our Allies."

AGRICULTURAL PRICES

Prices of leading farm products during 1943 showed a substantial increase along most lines, except where governmental price levels were established. Thus using closing prices for agricultural commodities, quotations on Dec. 29, 1943, compared as follows with the prices on the corresponding date in 1942: wheat, Chicago, per bushel, $1.66¾ as compared with $1.37¾; corn, No. 2, yellow, per bushel, New York, $1.31⅛ as compared with $1.11⅜; rye, Chicago, per bushel, $1.26⅛ as compared with $0.77⅞; oats, Chicago, per bushel, $0.78¼ as compared with $0.55; and cotton, middling, New York, per pound, $0.1949 as compared with $0.1914. The following additional prices may be mentioned (*Babson Monthly Price Table*) by way of comparison on Dec. 1, 1943, with the same date for 1942: beans, domestic pea, cwt., $6.32 with $6.30; butter, creamery, ex. (92 score), pound, $.423 with $.465; cheese, fancy flats, held, N. Y. State, pound, $.310 with $.313; eggs, mixed colors, standards, doz., $.568 with $.378; flour, spring std. patent, Minn., cwt., $3.285 with $3.137; lard, choice Western, pound, $.138 with $.138; flaxseed, cash closing, Duluth, bushel, $3.05 with $2.43; barley, Milwaukee, bushel, $1.31 with $.85; cattle, live, weekly aver., Chicago, cwt., $15.25 with $15.35; hogs, live, weekly aver., Chicago, cwt., $13.45 with $13.55; and sheep, live, weekly aver., Chicago, cwt., $6.35 with $6.75.

MANUFACTURING AND MINING INDUSTRIES

In these industries, where the output of products is more subject to control than in agriculture, price changes during 1943 were not considerable, and chiefly because of governmental price levels. In most instances, where no maximum price had been established under governmental regulations, changes represented moderate increases in prices. Comparing November, 1943, with the corresponding quotations for 1942, the following price changes may be selected from many listed in the *Guaranty Survey* (Nov. 30, 1943) [asterisk used wherever a maximum price under government regulations]: Coffee, 13⅜¢* per pound as compared with 13⅜¢*; copper, 11.87½¢* per pound as compared with 11.87½¢*; hides, 15½¢* per pound as compared with 15½¢*; pig iron, $23.50* per gross ton as compared with $23.50*; steel billets, Pittsburgh, $34.00 per gross ton as compared with $34.00; lead, 6.50¢* per pound as compared with 6.50¢*; petroleum, Pennsylvania, $3.00* per barrel as compared with $3.00*; rosin, $4.10 per 100 lbs. as compared with $3.43; rubber, 22½¢* per pound as compared with 22½¢*; sugar, 3.74¢* per pound as compared with 3.74¢*; tin, 52.00¢* per pound as compared with 52.00¢*; wool, Ohio fine Delaine, $1.21* per pound as compared with $1.21; and zinc, 8.25¢* per pound as compared with 8.25¢*.

NEW CAPITAL FLOTATION

New corporate financing (as distinguished from refunding issues) took place during 1943 on an incredibly small scale when compared with 1942, and that year, as explained at the time, was considerably smaller than was the case during 1941. In fact, 1943 new corporate financing may be said to have almost reached the vanishing point. The total new capital financing for the first nine months of the year (latest available) aggregated only $199,680,000 as compared with $614,069,000 for the corresponding months of 1942, and, for the corresponding periods, with $770,161,000 for 1941, $457,513,000 for 1940, $310,-

737,000 for 1939, $315,947,000 for 1938, and $1,154,135,000 for 1937. The extreme smallness of the 1943 new capital flotations is also indicated by comparing it with the yearly totals of $1,215,000,000 for 1936, $4,494,000,000 for 1930, and $8,639,000,000 for the banner year 1929.

However, the 1943 record still exceeds the extraordinarily small figures presented during the height of the depression period, 1932-35, when the yearly totals fell below the $178,000,000 mark. It should also be noted that a considerable monthly fluctuation in new capital flotations took place during 1943. Thus for January and September the monthly totals reached only $2,798,000, and $9,875,000, whereas for March the monthly total exceeded $54,000,000. The total of refunding issues for the first nine months of the year, however, showed a substantial increase, the total standing at $445,344,000, in contrast to the corresponding figure for 1942 of $296,160,000. The 1943 figure may also be compared with the corresponding figures of $1,354,000,000 for 1941 and $1,252,000,000 for 1940.

CORPORATE FINANCING

	1942		1943	
	Capital	Refunding	Capital	Refunding
January	$ 87,186,000	$82,846,000	$ 2,798,000	$ 7,517,000
February	56,709,000	18,901,000	11,330,000	1,865,000
March	78,585,000	39,209,000	54,693,000	38,447,000
April	97,114,000	18,527,000	20,785,000	74,902,000
May	103,092,000	5,807,000	28,621,000	44,744,000
June	76,827,000	61,686,000	29,999,000	77,813,000
July	27,510,000	32,719,000	19,175,000	65,580,000
August	58,600,000	6,018,000	22,404,000	79,311,000
September	28,446,000	30,437,000	9,875,000	55,165,000
October	2,434,000	43,846,000		
November	6,679,000	13,531,000		
December	14,717,000	66,329,000		

Source: *Survey of Current Business*, November issue of each year.

YEARLY TOTALS

	Capital	Refunding
1943*	$ 199,680,000	$ 445,344,000
1942	637,899,000	419,866,000
1941	1,040,042,000	1,552,143,000
1940	736,382,782	2,026,195,056
1939	371,249,537	1,807,623,508
1938	871,998,950	1,267,245,739
1937	1,225,012,213	1,208,679,946
1936	1,214,950,299	3,416,995,382
1935	403,569,958	1,863,858,807
1934	178,257,949	312,836,500
1933	160,717,178	220,866,478
1932	325,361,625	318,533,720
1931	1,763,448,723	825,516,700
1930	4,944,403,166	528,875,877
1929	8,649,439,560	1,386,921,569
1928	6,079,602,416	1,738,274,615
1927	5,391,008,544	1,928,187,260
1926	4,357,002,750	942,550,970
1925	4,100,725,167	637,384,524
1924	3,322,295,764	516,275,300
1923	2,702,496,155	530,343,942

* Nine months.

Source: *Commercial and Financial Chronicle*. 1941–1943 figures from *Survey of Current Business*.

BANK CLEARINGS

For 1943, bank clearings were substantially above the high records of 1942 and 1941. The grand total for the week ended Dec. 11 (*Commercial and Financial Chronicle*), for 111 cities, was $9,069,886,060, as compared with $7,857,639,087 for the corresponding week of 1942, an increase of 15.4 per cent. For the corresponding week of 1941 and 1940, the totals were $7,378,566,140 and $6,631,710,645, respectively. Exclusive of New York City, the nation's Federal Reserve Districts show total bank clearings for the week of $4,352,889,567, an increase of 8.8 per cent as compared with the 1942 corresponding week's total of $4,001,499,004. The huge showing for 1943 (exclusive of New York City) also compares with $3,558,691,193 and $3,025,221,916 for the corresponding week of 1941 and 1940, respectively.

The respective gains and losses for each of the 12 Federal Reserve Districts, for the year 1943, in comparison with 1942, are shown by the following table:

Federal Reserve District	1943 millions	1942 millions	Increase or Decrease %
First—Boston (12 cities)	380	390	−4.9
Second—New York (12 cities)	4,866	4,000	+21.7
Third—Philadelphia (10 cities)	676	542	+24.7
Fourth—Cleveland (7 cities)	543	562	−3.4
Fifth—Richmond (6 cities)	261	249	+4.9
Sixth—Atlanta (10 cities)	394	312	+26.3
Seventh—Chicago (17 cities)	566	543	+4.3
Eighth—St. Louis (4 cities)	271	255	+6.2
Ninth—Minneapolis (7 cities)	218	189	+15.2
Tenth—Kansas City (10 cities)	289	242	+19.4
Eleventh—Dallas (6 cities)	135	120	+12.0
Twelfth—San Francisco (10 cities)	481	454	+5.9
Grand Total (111 cities)	9,069	7,857	+15.4
Outside New York City	4,354	4,001	+8.8

SECURITY MARKETS

In comparison with 1942, the 1943 security market continued relatively inactive, and the average price, although higher than in 1942, remained at a comparatively low level. In view of the exceptional industrial activity, and the large corporate earnings and dividend distributions, the 1943 stock market acted contrary to immediate appearances, and seemed to discount adverse conditions expected to follow the cessation of war. Gilt edge bonds continued to rise throughout the year, showing an appreciation of about 4.6 per cent.

For the year as a whole, the stock price level showed but one movement of importance, namely, a rise from January to July of about 22.2 per cent. All leading groups of stocks participated in this rise—railroads, with an increase of 30.5 per cent, industrials with a rise of 20.2 per cent, and public utilities with an improvement of 34.5 per cent. Subsequently the aggregate price level declined about 3.8 per cent between July and October, with the October level holding substantially to the end of the year. All leading groups of stocks, except the utilities which substantially held their level to the end of the year, again participated in this decline, railroads to the extent of 4.8 per cent, and industrials by 4.2 per cent. (See "The Security and Money Markets.").

As was the case during 1942, the 1943 stock market apparently endeavored, through its discounting process, to balance unfavorable factors relating to the future against existing favorable industrial as well as war news. (See "The Security and Money Markets.")

RAILROAD INDUSTRY

The year shows approximately the same heavy railroad traffic that prevailed during 1942 and 1941, and which was described in previous issues of The American Year Book for those years. According to the Association of American Railroads (announcement Dec. 31), revenue freight car loadings during 1943 totaled 42,414,343, a decrease of about 1 per cent when compared with the 1942 total of 42,826,463, but revenue freight car loadings do not tell the whole story. Note must be taken of the fact that 1943 revenue ton-mileage increased 13.6 per cent over 1942, and that year, in turn, showed an increase in this respect of nearly 33 per cent over 1941. The year's increase in revenue ton-mileage, as was also the case during 1942, is due to the heavier loading of cars and the longer haul per ton.

Note should also be taken of the

fact that total loadings for 1943, as compared with 1942, increased substantially for the following leading groups of commodities, namely, grain and grain products 21.6 per cent, live stock 12.5 per cent, coal 1.6 per cent, and coke 2.7 per cent. Decreases were shown in the following groups of commodities: forest products 9.2 per cent, ore 6.6 per cent, merchandise in smaller than car load lots 9.3 per cent, and miscellaneous 1 per cent. As regards revenue freight car loadings, it should also be noted that all districts of the country reported increases for the last week of the year as compared with the corresponding week of 1942.

EXPORTS AND IMPORTS

Probably no other business barometer shows the effect of war conditions so noticeably as the 1943 statistical record of exports and imports. The tremendous increase in exports is traceable altogether to the shipments abroad of war materials and lend-lease commodities. Exports of merchandise for the first nine months of 1943 (latest available, *Survey of Current Business*) reached the tremendous total of $9,107,368,000. This figure compares with exports of merchandise for the first eleven months of 1942 of $7,019,000,000, with $4,494,000,000 during the corresponding period of 1941, and with annual totals of $4,022,000,000 for 1940, $3,177,000,000 for 1939, $3,094,000,000 for 1938, $3,349,000,000 for 1937, and $5,241,000,000 for the record peace year of 1929.

By way of striking contrast, imports of general merchandise for the first nine months of 1943 totaled only $2,448,908,000, as compared with $2,385,000,000 and $3,001,000,000 for the first 11 months of 1942 and 1941, and with annual totals of $2,626,000,000 for 1940, $2,318,000,000 for 1939, $1,960,000,000 for 1938, $3,084,000,000 for 1937, and $4,399,000,000 for the record year of 1929. The enormous difference between exports and imports in 1943 ($6,659,000,000 for the first nine months of the year) clearly indicates abnormal conditions arising out of the war. It is noteworthy that shipments abroad were so large as to make the 1943 exports for the first nine months ($9,107,000,000) nearly twice as great as the total exports of the banner peace year of 1929 ($5,241,000,000).

AUTOMOTIVE INDUSTRY

Last year's account explained the enormous decline in the production of automobile passenger cars and trucks during 1942, owing to the Government's prohibition of the sale of new passenger automobiles and light trucks and, likewise, to the Government's pressure to convert the full resources of this industry into an armament-producing industry. This conversion was effected during 1942 and 1943 to an extraordinary degree. The huge decline in the manufacture of passenger cars and trucks, therefore, does not mean a corresponding decline in the nation's total manufacturing output.

Current production of the industry with respect to weapons of war was placed in 1942 at an "annual rate of $5.4 billions, or 32% ahead of the average rate of production of non-military items in 1941—the peak peacetime year of the automotive industry." As compared with 1942, the tremendous progress during 1943 is indicated by the October, 1943 issue of "Automotive War Production," as follows:

"The big parade of war production streaming from automotive war plants is now at the $10,000,000,000 a year mark, representing almost endless columns of guns, tanks, shells, aircraft and motorized equipment pushing toward the battlefronts. . . . But the dollar volume measure makes no allowance for lowered costs of war products which have been achieved by efficient mass production methods. . . . While no exact figures exist for the automotive industry as a whole, the savings to the government resulting from manufacturing efficiencies, price reductions and voluntary refunds amount to several billions of dollars. . . . Currently the industry is producing war materials two-and-a-half times in excess of its best peacetime rate. Production in the first seven months of 1943 was more than the output for the entire year of 1942."

IRON AND STEEL OPERATIONS

During 1943 the iron and steel business showed operations, as was also the case during 1942, at virtually full capacity, due mainly to war demands. Ingot production reached a record for all time of around 89,000,000 tons. For the week beginning Jan. 3, 1944, The American Iron and Steel Institute placed the operating rate of steel companies having 94 per cent of the steel capacity of the industry at 95.9 per cent of capacity, compared with 99.3 per cent one month previously, and 95.8 per cent a year previously. This operating rate for the week is reported to be equivalent to 1,667,000 tons of steel ingots and castings, compared with 1,659,400 tons one year ago.

Shipments of finished steel products by subsidiaries of the United States Steel Corporation in September (latest available) amounted to 1,664,577 net tons, as compared with shipments totaling 1,703,570 net tons in September of 1942. The year's total will be but slightly lower than the 1942 record of 21,064,157 tons, which compared with 20,500,000 tons for 1941, 15,000,000 tons for 1940, 11,750,000 tons for 1939, and 17,000,000 tons for 1929.

Despite the huge operations of the iron and steel industry during 1943, very important changes are expected to take place in this industry during the coming year. Referring to these prospects, the *Iron Age* (Jan. 6, 1944) makes the following comment:

"Twelve months ago, tremendous order back-logs, material and manpower shortages, and expansion needs were the topics of the day, and few persons were able to visualize fully the unprecedentedly high production destined to be achieved in 1943. This week back-logs are declining in a number of lines, much of the new capacity has proved unnecessary, and cutbacks, renegotiation, and surplus goods disposal are the current subjects of importance. In six months, the steel production-distribution pattern is expected to be closer to normal than at any time since the war began. Output of ingots will be lower during 1944 than the record 1943 production of around 89,000,000 net tons."

ELECTRIC OUTPUT

According to the Edison Electric Institute, the production of electricity by the electric light and power industry of the United States totaled 4,613,000,000 KWH for the week ended Dec. 18, 1943. This output exceeded that of the corresponding week of 1942 by 16 per cent, whereas the corresponding week of 1942 exceeded that of the same week of 1941 by about 15.6 per cent. During all of the last quarter of the year, the weekly output for 1943 consistently exceeded that of 1942, week by week, the increase ranging from a minimum of 16 per cent to a maximum of 18.9 per cent. The output of 4,613,000,000 KWH for the week of Dec. 18, 1943, compares with 3,976,000,000 KWH for the corresponding week of 1941, 2,755,000,000 in 1940, 1,415,000,000 in 1932, and 1,637,000,000 in 1929.

BUILDING CONSTRUCTION

According to the Bureau of Labor report, the percentage change from November, 1942, to November, 1943, amounted to a decrease of 39.2 per cent in new residential construction, a decrease of 69.2 per cent in new non-residential construction, and a decrease of 19.1 per cent in additions, alterations, and repairs. For all three types of construction, a decrease of 53.7 per cent is indicated for the aforementioned period. As stated by the Secretary of Labor:

"The cumulative dollar value of building construction started in urban areas of the United States thus far in 1943 was $1,179,000,000 or 54 per cent less than during the same period of 1942. The volume of new non-residential building declined 69 per cent; of residential building 39 per cent; and of additions, alterations and repairs 19 per cent. The value of Federal building construction contracts awarded during the first eleven months of 1943 was 64 per cent less than the value of such contracts awarded during the same months of 1942, while the dollar volume of non-Federal work declined 39 per cent from the corresponding 1942 total."

COMMERCIAL FAILURES

The 1943 record of commercial failures represents a decided improvement over 1942, and that year, as explained in last year's account, was "the best on record for a long series of years, and represents a distinct continuation of the improving business failure situation during the past six years." The number of business failures reported by Dun and Bradstreet for the first nine months of 1943 (latest available) amounted to only 2,752 as compared with 7,641 for the same period in 1942, and 9,299, 10,398, and 11,197 for the corresponding period of 1941, 1940, and 1939. The nine months record of 1943 (2,752) also compares with full yearly records of 12,836 for 1938, 9,490 for 1937, 9,607 for 1936, 12,244 for 1935, 12,091 for 1934, 19,859 for 1933, and 31,822 for 1932, the bottom year of the depression.

With respect to failure liabilities, 1943 also shows a remarkable record. For the first nine months of the year, total liabilities of failures amounted to only $37,097,000 as compared with $81,387,000, $106,105,000, $124,088,000, and $138,612,000 for the corresponding periods of 1942, 1941, 1940, and 1939. The 1943 nine months record ($37,097,000) also compares with the following full yearly records of $100,763,000 for 1942, $136,000,000 for 1941, $167,000,000 for 1940, $168,000,000 for 1939, $247,000,000 for 1938, $183,000,000 for 1937, $203,000,000 for 1936, $311,000,000 for 1935, $334,000,000 for 1934, $458,000,000 for 1933, and $928,000,000 for 1932, the bottom year of the depression.

CORPORATE DIVIDENDS

According to the New York Stock Exchange's monthly magazine, *The Exchange,* dividends of 635 separate stocks (against 598 dividend payers last year), for the first nine months of 1943, exceeded those of the corresponding period of 1942 by 0.5 per cent. Three hundred and sixty-nine paid the same dividend as in the preceding year, 135 increased their dividend distribution, and 145 paid lower dividends. In the aggregate, the dividend disbursement of all the stocks, for the nine months ended Sept. 30, amounted to $1,367,163,000, as compared with $1,360,029,000 during the corresponding period of 1942.

The Stock Exchange's list contains 27 categories of stocks, and 1943 shows that about one-half distributed larger totals than during 1942, and about one-half (14) smaller dividends. The largest gainers were "amusement stocks" with a gain of 43.5 per cent; "aviation," 71.4 per cent; "business and office equipment," 19 per cent; "farm machinery," 23.5 per cent; "railroad," 21.7 per cent; "rubber," 68.1 per cent; and "shipbuilding and operating," 16.7 per cent. It is thus apparent that during the year the aviation, rubber, and amusement stocks, in the order named, came greatly to the fore. The largest losing groups, in order of severity, were "United States companies operating abroad," 21.1 per cent; "paper and publishing," 12.6 per cent; "mining," 10 per cent; "garment," 8.1 per cent; "tobacco," 6.8 per cent; "chemical," 5.3 per cent; and "steel, iron and coke," 4.8 per cent. In all other groups, the increases or decreases, compared with 1942, were trivial, amounting to 4 per cent or less, but it is interesting to note that the automobile group showed a decline of 2.3 per cent, building a decline of 3.6 per cent, machinery and metal a decline of 1.5 per cent, and "all public utilities" 2.5 per cent. Commenting on its report, *The Exchange* makes the following statement:

"Some abrupt reversals occurred in the record of common stock dividend payments by groups in the first three-quarters of this year, as compared with the same 1942 period, but the aggregate distribution to holders of issues listed on the New York Stock Exchange was only slightly changed.

"The amusement company roster, for one, increased its disbursements by 43.5 per cent whereas the 1942 showing was 4.3 per cent less than in the corresponding 1941 interval. The automotive group, many units of which last year were still in the throes of a vast changeover to war production, paid only 2.3 per cent less in 1943 than in 1942; the decline of 1942 payments from 1941 totals was 35.1 per cent.

"The aviation companies came forward with a rush this year, disbursing 71.4 per cent more than the year before; in 1942 the payments made by this group were 45.3 per cent less than in 1941. The railroads, too, swung ahead, paying 21.1 per cent more than in 1942; the 1942 aggregate for the 9 months was only 5.7 per cent larger than in 1941.

"The first nine months of 1943 may be considered as fairly reflective of corporate operations under a war economy. Earnings during this period bore the brunt of heavy Federal taxation, and, to a degree, received the impact of extensive renegotiation of war contracts. With another tax bill soon to be drawn up at Washington, it remains to be seen how profits and dividends of 1944 will compare with those of this year when stockholders fared reasonably well."

INDUSTRIAL PRODUCTION

(1935–1939 Average = 100)

	Adjusted for Seasonal Variation			Without Seasonal Adjustment		
	Oct. 1943	Nov. 1942	Oct. 1942	Oct. 1943	Nov. 1942	Oct. 1942
MANUFACTURES						
Durable Goods						
Iron and Steel	214	204	207	214	204	207
Machinery	454	392	380	454	392	380
Transportation Equipment	774	600	567	774	600	567
Plate Glass	47	35	33	47	35	33
Nonferrous Metals and Products	289	239	230	289	239	230
Beehive Coke	532	503	527	532	503	527
Non-Durable Goods						
Textiles	151	159	159	151	159	159
Meat Packing	184	149	145	184	166	146
Wheat Flour	117	118	111	124	119	118
Manufactured Food Products	146	140	137	156	141	147
Newsprint Consumption	96	106	104	101	115	109
Leather and Products	110	117	119	110	119	120
Petroleum Refining	211	155	153	211	155	153
Lubricating Oil	(Sept.) 123	114	113	(Sept.) 123	114	113
Tobacco Products	139	138	140	144	141	149
Minerals						
Bituminous Coal	144	154	145	144	154	145
Anthracite Coal	127	124	117	127	124	117
Petroleum, Crude	134	121	121	134	121	121
Iron Ore	223	211	218	(Sept.) 351	229	335
Silver	(Aug.) 80	74	82	(Aug.) 78	75	82

Source: *Federal Reserve Bulletin*, December, 1943.

X. BUSINESS AND FINANCE

GENERAL BUSINESS INDICES

Using the figures of the Federal Reserve System (adjusted for seasonal variations) it appears that the record for October, 1943 (latest figures available) shows very large increases along certain important lines, despite the large gains of the previous year. Thus the index for the machinery industry, comparing October, 1943, with October, 1942, shows an increase from 380 to 454, for transportation equipment from 567 to 774, for plate glass from 33 to 47, for nonferrous metals and products from 230 to 289, for meat packing from 145 to 184, and for petroleum refining from 153 to 211. In certain other important lines there were increases, but of a moderate nature, for the period from October, 1942 to October, 1943, namely, for iron and steel from 207 to 214, for beehive coke from 527 to 532, for wheat flour from 111 to 117, for manufactured food products from 137 to 146, for lubricating oil from 113 to 123, for anthracite coal from 117 to 127, for crude petroleum from 121 to 134, and for iron ore from 218 to 223. Of all the types of industries listed by the Federal Reserve System, only five indicate a decline, but in all cases the decline was very moderate in character. Mention should be made of declines in the textile industry from 159 to 151, newsprint consumption from 104 to 96, leather and products from 119 to 110, tobacco products from 140 to 139, and bituminous coal from 145 to 144.

COMMODITY INDEX NUMBERS

Using the United States Department of Labor wholesale price index for main groups of commodities, 1943 experienced a slight upward change in the price level, namely, from 101.9 for January, 1943, to 103.1 for September (the latest available). The January index figure of 101.9 compares with 96 for January, 1942, and 80.8 for January, 1941. During the first nine months of 1943, this index represents a price increase of only 1.2 per cent, and since January, 1941, of 27.6 per cent. The September, 1943, figure of 103.1 compares with total yearly averages of 98.8 for 1942, 87.3 for 1941, 78.6 for 1940, 77.1 for 1939, 78.6 for 1938. 86.3 for 1937, 80.8 for 1936, 80 for 1935, 75 for 1934, 66 for 1933, 64.9 for 1932, 73 for 1931, 86.4 for 1930, 100 for 1926, and 154.4 for 1920, the highest yearly average under this index since the beginning of the century. Exceptionally large increases are noted for 1943 in only two of the main groups of commodities listed by the Bureau of Labor Statistics, namely, farm products, where there was an increase from 112 to 121.8, and raw materials with an increase from 104.7 to 112.1. In all the other groups of commodities listed by the Bureau, the increases for the year were trivial, but in no instance was there a decline.

It is also interesting to note that the United Kingdom Board of Trade index shows a very small increase for 1943, namely from 162.1 for January, 1943, to only 162.9 for September (the latest available). The latter figure compares with 156.4 for January, 1942 and 149.5 for January, 1941. In tabular form the index numbers of the United States Department of Labor and the United Kingdom Board of Trade for leading groups of commodities at the close of the year, compared with former years, are as follows:

INDEX NUMBERS OF COMMODITY PRICES

(Source: U. S. Dept. of Labor—*Standard Trade & Security*, "Current Statistics.")
(Source: U. K. Board of Trade—Bank of England, *Statistical Summary*).

	U. S. Dept. of Labor		U. K. Board of Trade	
	1942	1943	1942	1943
January	96.0	101.9	156.4	162.1
February	96.7	102.5	158.5	162.1
March	97.6	103.4	158.8	162.2
April	98.7	103.7	159.6	162.8
May	98.8	104.1	160.7	163.3
June	98.6	103.8	159.8	163.1
July	98.7	103.2	161.1	164.0
August	99.2	103.1	159.9	162.2
September	99.6	103.1	159.7	162.9
October	100.0		159.9	
November	100.3		160.8	
December	101.0		161.3	

YEARLY AVERAGE

U. S. Dept. of Labor

1904	59.7	1924	98.1
1905	60.1	1925	103.5
1906	61.8	1926	100.0
1907	65.2	1927	95.4
1908	62.9	1928	96.7
1909	67.6	1929	95.3
1910	70.4	1930	86.4
1911	64.9	1931	73.0
1912	69.1	1932	64.9
1913	69.8	1933	66.0
1914	68.1	1934	75.0
1915	69.5	1935	80.0
1916	85.5	1936	80.8
1917	117.5	1937	86.3
1918	131.3	1938	78.6
1919	138.6	1939	77.1
1920	154.4	1940	78.6
1921	97.6	1941	87.3
1922	96.7	1942	98.8
1923	100.6	1943	103.1 (Sept. figure)

LABOR CONDITIONS

With respect to labor conditions, using October as the basis (latest date furnished by the *Federal Reserve Bulletin*), 1943 employment shows substantial increases along certain important lines as compared with the same month of 1942, but also declines of moderate amount in many fields. The situation is largely due to war necessities. Large increases may be noted in iron and steel, with an increase from 164.9 for October, 1942, to 174.3 for October, 1943; in electrical machinery with an increase for the corresponding period from 235.3 to 283.9; in machinery, except electrical, with an increase from 217.3 to 237.2; in the automotive industry from 142.3 to 185.2; in transportation equipment, except automotive, with an increase from 1,156.5 to 1,471; non-ferrous metals, from 171.2 to 183.9; paper and allied products, from 113.1 to 117.8; printing and publishing, from 100.9 to 102.5; chemical and allied products, from 233.4 to 255.9; rubber products, from 139.9 to 164.2; and miscellaneous industries from 150.7 to 167. In nearly all other fields there was a moderate decline, and mention should be made of lumber and timber basic products with a decrease from 127.2 to 110.2; furniture and lumber products from 112.3 to 108.8; stone, clay and glass from 125.2 to 119.1; textile mill and fiber products from 111.5 to 103.8; apparel and other finished textiles from 114.5 to 104.5; leather products from 103 to 89.6; food products from 128.6 to 122.8; and tobacco products from 106.4 to 95.1.

With respect to payrolls a very

BUREAU OF LABOR STATISTICS WHOLESALE PRICE INDEX FOR MAIN GROUPS OF COMMODITIES

(1926 = 100)

Commodity Groups	Dec. 18 1943	Dec. 12 1942	Dec. 20 1941	Dec. 21 1940	Dec. 23 1939
All Commodities	102.9	100.5	94.0	79.7	79.3
Farm Products	121.8	112.0	96.0	69.1	67.8
Foods	105.7	104.0	91.6	73.4	72.1
Hides and Leather Products	117.9	118.4	115.5	102.7	104.4
Textile Products	97.2	96.6	91.4	74.2	77.8
Fuel and Lighting Materials	82.6	80.0	79.0	72.6	73.5
Metals and Metal Products	103.9	103.9	103.4	97.6	96.1
Building Materials	113.4	110.0	107.5	99.2	93.6
Chemicals and Drugs	100.3	99.5	91.7	77.7	78.0
Housefurnishing Goods	104.4	104.1	102.3	90.2	90.0
Miscellaneous	93.0	90.3	87.5	77.1	77.4
Raw Materials	112.1	104.7	93.3	72.9	73.3
Semi-manufactured Articles	93.1	92.5	90.0	80.7	82.1
Manufactured Products	100.4	99.8	95.1	83.1	82.2
All Commodities Other Than Farm Products	98.9	98.0	93.5	82.0	81.8
All Commodities Other Than Farm Products and Foods	97.8	96.2	93.9	84.4	84.3

Source: *Commercial and Financial Chronicle*, Dec. 23, 1943.

large increase is shown in most all of the leading industries, according to the payroll index furnished by the *Federal Reserve Bulletin.* Some of the largest increases may be noted, namely, in iron and steel, with an increase from September, 1942, to September, 1943, from 255.4 to 312.8; in electrical machinery from 368.6 to 487.7; in machinery, except electrical, from 352.6 to 435.2; in transportation equipment, except automotive, from 2,053.3 to 2,945.8; in the automotive industry from 225.2 to 338.7; non-ferrous metals from 273.3 to 336.8; chemical and allied products from 338.5 to 438.4; rubber products from 189.9 to 273.4; and miscellaneous industries from 227.4 to 297.1. All of the other groups of industries showed moderate increases, except the leather products industry, which experienced a slight decline from 145.6 to 143.1. According to the latest available report of the Federal Reserve System, the 1943 showing for leading types of industries as regards both employment and payrolls was as follows:

FACTORY EMPLOYMENT AND PAYROLLS

	Employment						Payrolls		
	Adjusted for Seasonal Variation			Unadjusted for Seasonal Variation			Seasonal Variation		
	Oct. 1943	Oct. 1942	Nov. 1941	Oct. 1943	Oct. 1942	Nov. 1941	Sept. 1943	Sept. 1942	Oct. 1941
Durable Goods									
Iron and Steel				174.3	164.9	138.8	312.8	255.4	174.7
Electrical Machinery				283.9	235.3		487.7	368.6	
Machinery, Except Electrical				237.2	217.3	181.4	435.2	352.6	256.7
Transportation Equipment, Except Automotive				1,471.0	1,156.5	210.4	2,945.8	2,053.3	279.7
Automobiles				185.2	142.3		338.7	225.2	
Non-ferrous Metals				183.9	171.2	146.1	336.8	273.3	185.2
Lumber and Timber Basic Products				110.2	127.2	77.9	197.7	192.2	92.1
Furniture and Lumber Products				108.8	112.3		183.2	158.1	
Stone, Clay and Glass				119.1	125.2	101.5	188.5	168.4	110.3
*Total of Durable Goods	232.1	206.5	166.4						
Nondurable Goods									
Textile Mill and Fiber Products				103.8	111.5	113.4	172.0	166.8	122.3
Apparel and Other Finished Textiles				104.5	114.5		163.4	147.4	
Leather Products				89.6	103.0	96.7	143.1	145.6	100.5
Food Products				122.8	128.6	145.9	185.1	173.2	161.9
Tobacco Products				95.1	106.4	68.4	155.0	144.1	74.9
Paper and Allied Products				117.8	113.1	126.7	176.6	147.0	135.6
Printing and Publishing				102.5	100.9		128.9	111.2	
Chemical and Allied Products				255.9	233.4	148.4	438.4	338.5	190.7
Products of Petroleum and Coal				118.9	119.3		195.0	160.5	
Rubber Products				164.2	139.9	111.2	273.4	189.9	135.8
Miscellaneous Industries				167.0	150.7		297.1	227.4	
*Total Nondurable Goods	121.2	122.6	119.0						

* Under "Adjusted for Seasonal Variation," only totals are furnished, instead of figures for individual industries.

Source: *Federal Reserve Bulletin*, November, 1943.

THE SECURITY AND MONEY MARKETS

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GENERAL CONDITIONS

Although stock market operations during 1943 considerably exceeded those of 1942 with respect to both the price level and the volume of transactions, the year's summary again gives every evidence that the Second World War no longer stimulates in the speculative community the enthusiasm that prevailed during the First World War. Despite extraordinary developments, both domestic and international, including most favorable war news for the United Nations and a record-breaking business level, 1943 stock market fluctuations, as well as the volume of stock market transactions, remained relatively small throughout the year. The average price level at the end of the year was only about 20 per cent higher than at the beginning of the year, and this rise seems particularly small when measured by the number of absolute dollars involved because of the very low dollar level prevailing at the start of the year.

The annual volume of transactions on the New York Stock Exchange exceeded the 275,000,000-share figure, and while more than twice the 1942 total, it must be remembered that 1942's transactions of 125,000,000 shares were the smallest since 1914, when, at the outbreak of the First World War security exchanges were closed for the last third of the year. Million share days were rare during 1943, and, generally speaking, half-million share days or less represented the customary record. Moreover, throughout the year, as was the case during 1942, the price level of stocks remained exceptionally low, in view of the extraordinarily large corporate earnings and dividend distributions. In ever so many instances, leading common shares paid dividends to their holders amounting to an 8 to 10 per cent return on the prevailing market price.

PRICE TRENDS

The 1943 market experienced but one main price trend, namely, a moderate and gradual increase from January to July. Subsequently a slight decline of 3 to 4 per cent occurred during August, September, and October, the October level remaining practically constant to the end of the year. Combining all of the leading groups of stocks, the Standard and Poor's index indicates an increase during the first seven months of the year from 80.2 (for January) to 98.1 (for July), or about 22 per cent. Thereafter this list declined 3.8 per cent between July and October, with the October level maintained essentially to the end of the year. Using the same periods with reference to the leading groups of stocks, railroad shares first increased by 30.5 per cent and then receded by 4.8 per cent; industrial stocks improved by 20.2 per cent and then declined by 4.2 per cent; and public utility stocks increased by 34.5 per cent and subsequently held their level following July for the balance of the year. Bonds, using the Standard and Poor's index for corporate bonds, showed a complete and almost continuous rise in their price level throughout the year, the increase extending from 106.4 (for January) to 111.3 (for October), or 4.6 per cent.

MARKET FACTORS

The 1943 security market gave every indication that, as a discounter of the future, it was balancing the favorable factors with the unfavorable. On the favorable side, the following existing factors may be enumerated: (1) an extraordinary peak level of business activity along nearly all leading lines, occasioned by a tremendous national war program, as well as by large war orders and food orders placed by foreign nations at war; (2) greatly increased efficiency in mass production, with, nevertheless, a virtual cessation in unemployment; (3) extraordinary corporate earnings and exceedingly large dividend allotments in comparison with the very modest yield obtainable on government and sound corporate bond issues; (4) a widespread discussion concerning the prospects of higher prices, due to inflationary tendencies; (5) the prospect, also widely discussed, of a high post-war activity to meet the needs of foreign nations as well as to fill the depleted backlogs of domestically needed goods, repairs, and new construction; and (6) the comparative absence of strikes and the quick settlement of those that did materialize.

Apparently the 1943 market was not greatly influenced by the present level of improved earnings and dividend distributions, the volume of current business, and the prospect of a post-war boom. Evidently it was looking to the future, endeavoring to discount the favorable factors with the unfavorable. Among the unfavorable factors may be mentioned the following: (1) a rapidly increasing Federal indebtedness, with a prospect of its becoming so great that a reduction in corporate tax burdens need hardly be expected for a long time; (2) an increasing tax burden, with a reluctance to saddle much more of that burden on individuals and, instead, to siphon more and more of corporate earnings to meet the needed situation; (3) extensive and costly plans of reconversion to a peacetime economy, a situation applying to practically every business; (4) the renegotiation and termination of contracts with the Government and the effect of such renegotiations upon earnings statements; (5) the forecasting by many advisory services of a lower business level following the close of the war; (6) the drift towards inflation with its resulting increase in production costs; (7) the prospect of an upward living cost trend with its inevitable, unfavorable pressure upon the labor outlook, particularly when strikes may no longer be regarded as inconsistent with the war effort; and (8) the sinister prospect of political influences becoming rampant when party warfare can no longer be kept under control because of war considerations.

In striking the balance between the aforementioned groups of factors, the 1943 security market may safely be said to foreshadow the turn in the tide of war and to have visualized ever more strongly the prospects of peace. The most noteworthy feature, in fact, concerning stock market movements during the last half of 1943 was the effect of so-called "peace scares." Periodically, whenever war news was exceptionally good and the volume of peace talk in the press the greatest, the market showed an increased volume of transactions, with a drooping tendency in the price level.

INDUSTRIAL SHARE PRICES

The extent of the two stock market movements occurring during 1943, namely, the rise from January to April and July, depending upon the group of stocks under consideration, and the subsequent slight decline to the end of the year, may be shown by the monthly averages of the Standard and Poor's barometer figures for various groups of stocks. Fifty representative industrial stocks had an average price of 101.8 for January. This group improved gradually until a high price of 122.5 was reached for the month of July. Thereafter there was a gradual decline, the monthly averages being 116.2 for August, 118.6 for September, and 117.3 for October (the latest figure available). Since that time the price level has remained approximately the same to the end of the year. The October average of 117.3 for the year 1943 compares with 94.1 for the same month of 1942, and, with reference to approximately the same period (November), 93.8 for 1941, 106.9 for

1940, 123 for 1939, 129.1 for 1938, 107.8 for 1937, 168 for January, 1937, and 53.5 for the yearly average of 1932, the bottom year of the 1930-36 depression. It is interesting to note that the October, 1943 average of 117.3 was more than twice the 1932 yearly average of 53.5. It should also be pointed out that during 1929, the great prosperity period of that industrial cycle, this industrial list reached the highest monthly level during September, namely, 245.9.

RAILROAD SHARES

With respect to 20 representative railroad stocks, the monthly average of the Standard and Poor's barometer figure was similar in trend to that of the industrial group. For the first half of the year, January to June, inclusive, the monthly averages stood at 30.2, 31.6, 35.1, 37.7, 39.4, and 38.3. From the July average high of 39.4, there was a slight decline in succeeding months from 39.4 for July to 36.7 for August, 37.3 for September, and 37.5 for October (the latest available). The October average of 37.5 compares with 29.7 for October, 1942; 27.8 for November, 1941; 30.1 for November, 1940; 33.5 for November, 1939; 31.7 for November, 1938; 33.1 for November, 1937; 47 for January, 1936; and with yearly averages of 36 for 1935; 42.9 for 1934; 39 for 1933; 26.8 for 1932; and 141 for 1929. During 1929, it should be noted, these railroad shares reached the highest monthly level during September, namely, 161.2. It is interesting to compare the October, 1943 average of 37.5 with the 1932 low monthly average of 15, and also with the September 1929 high average of 161.2.

PUBLIC UTILITIES

A similar price trend was shown in the public utility group during 1943. According to the Standard and Poor's barometer average for 20 representative public utility stocks, the monthly average rose from 38.2 in January to 51.4 for July, and thereafter the price was substantially maintained after a monthly average of 51 for October (the latest available). From January to July, inclusive, the average monthly price was a steadily rising one, the average standing at 38.2 for January, 41.3 for February, 42.9 for March, 45.4 for April, 47.1 for May, 47.8 for June, and 51.4 for July. Since July the averages were as follows: 49.9 for August, 51.3 for September, and 51 for October. The October, 1943, average of 51 compares with 33.7 for the corresponding month of 1942; with 37.9 for November, 1941; 59.8 for November, 1940; 69.5 for November, 1939; 66.4 for November, 1938; 63.3 for November, 1937; 100.9 for January, 1937; 88.4 for January, 1936; and with yearly averages of 62.8 for 1935; 65.5 for 1934; 81.8 for 1933; 88.7 for 1932; and 246 for 1929.

COPPER AND BRASS SHARES

Attention may also be called to a representative list of seven copper and brass stocks, whose average price increased from 75.2 for January to 85.8 for April. Thereafter a moderate decline occurred which extended to 84.8 for May, 80.2 for June, 82.3 for July, 77.4 for August, 76.2 for September, and 77.4 for October (the latest available). The October average of 77.4 compares with 80.9 for October of 1942; and 82.4 for December, 1941.

Combining all of the aforementioned 90 stocks used by the Standard and Poor's index, the average price stood at 80.2 for January of 1943. An increase then took place until 98.1 was reached for the month of July. Subsequently a slight declining movement carried the price down to 93.2 for August, 95.2 for September, and 94.3 for October.

MARKET VALUE OF SHARES

Using the figures of the New York Stock Exchange, the total market value of 1,487,000,000 of listed shares on the New York Stock Exchange stood at $45,101,000,000 at the close of November, 1943. This value compares with $37,374,000,000 at the close of November, 1942, and with $37,882,-

SECURITY MARKET PRICES

	Railroads 20 stocks		Industrials 50 stocks		Public Utilities 20 stocks		Copper and Brass 7 stocks		Stocks 90 stocks	
	1942	1943	1942	1943	1942	1943	1942	1943	1942	1943
January	28.1	30.2	89.2	101.8	35.4	38.2	*88.3	*75.2	70.9	80.2
February	28.0	31.6	86.4	107.7	33.9	41.3	*85.1	*80.0	68.7	84.9
March	26.2	35.1	82.1	110.9	30.8	42.9	*81.4	*84.1	64.9	87.9
April	24.8	37.7	79.0	114.0	28.8	45.4	*76.9	*85.8	62.2	90.0
May	24.6	39.4	79.8	118.3	29.8	47.1	*70.8	*84.8	62.9	94.4
June	24.0	38.3	84.4	121.0	31.1	47.8	*71.4	*80.2	66.1	96.1
July	25.8	39.4	87.9	122.5	30.6	51.4	*76.1	*82.3	68.6	98.1
August	26.7	36.7	87.3	116.2	30.0	49.9	*75.6	*77.4	68.2	93.2
September	27.2	37.3	88.1	118.6	30.4	51.3	*75.3	*76.2	68.9	95.2
October	29.7	37.5	94.1	117.3	33.7	51.0	*80.9	*77.4	74.0	94.3
November	29.6		95.2		35.7		*76.4		75.2	
December	28.2		96.5		34.9		*71.6		75.6	

* Copper and Brass figures use 1935–1939 as a base period. All other figures use 1926 as a base period.

The above figures are an average for the month based on daily closing prices, except for Copper and Brass, which are weekly prices.

(Source of data: Standard & Poor's *Trade and Securities*, Current Statistics, November, 1943.)

000,000 at the close of November, 1941. The 1943 November value of $45,101,000,000 may also be compared with $41,848,000,000 on Dec. 1, 1940; $45,505,000,000 at the same date in 1939; $46,081,000,000 in 1938; $40,716,000,000 in 1937; and with $62,618,000,000 for March of 1937, the high mark before the bear market of 1937-38 began its course.

MONTHLY STOCK AVERAGES

The average monthly "All Stock Price Index," as furnished by the New York Stock Exchange, stood at 59.8 for Nov. 30, 1943, as compared with 50.6 for November, 1942; 51.6 for November, 1941; 57 for November, 1940; 63.2 for November, 1939; and 64.1 for November, 1938. The Dec. 1, 1943 average of 59.8 compares with the following December averages for preceding years: 37.8 for 1937; 56.01 for 1936; 45.85 for 1935; 35.59 for 1934; 32.78 for 1933; 25.61 for 1932; 34.24 for 1931; 55.53 for 1930; and 68.44 for 1929.

VOLUME OF STOCK TRANSACTIONS

Stock transactions on the New York Stock Exchange during 1943 were about twice the volume of 1942 sales. Despite this doubling, however, the year's market must still be described as one of extreme dullness, thus continuing the movement recorded in previous issues of The American Year Book for 1936-42. Despite sensational war news and an extraordinary increase in the volume of business, stock market stagnation continued through the year. March, with the largest monthly transactions, recorded only 36,997,000 shares, while October, the smallest month of the year, recorded only 13,923,000 shares.

Shares sold on the New York Stock Exchange during 1943 totaled only 278,741,765, as compared with 125,677,963 shares for 1942; 170,534,363 for 1941; 207,605,359 for 1940; 262,015,799 for 1939; 297,446,059 for 1938; 409,468,885 for 1937; 810,000,000 for 1930, and 1,125,000,000 for 1929, the highest figure on record.

SHARES TRADED ON THE NEW YORK STOCK EXCHANGE

	1942	1943
January	12,994,000	18,032,142
February	7,926,000	24,434,084
March	8,588,000	36,997,243
April	7,589,000	33,553,559
May	7,229,000	35,051,545
June	7,466,000	23,415,845
July	8,374,000	26,324,332
August	7,387,000	14,251,976
September	9,450,000	14,985,690
October	15,933,000	13,922,678
November	13,437,000	18,246,011
December	19,313,000	19,526,660

YEARLY TOTALS OF SHARE SALES

1920...	226,640,400	1932...	425,235,829
1921...	172,712,716	1933...	654,874,210
1922...	258,652,519	1934...	323,871,840
1923...	236,115,040	1935...	381,666,197
1924...	281,991,597	1936...	496,063,099
1925...	454,404,733	1937...	409,468,885
1926...	450,845,255	1938...	297,446,059
1927...	576,563,218	1939...	262,015,799
1928...	919,661,825	1940...	207,605,359
1929...	1,124,991,490	1941...	170,534,363
1930...	810,038,161	1942...	125,677,963
1931...	579,921,426	1943...	278,741,765

On the New York Curb Market sales of shares also showed a very substantial increase during 1943, the total standing at 71,382,463 shares, as compared with 22,327,822 shares for 1942; 34,690,900 for 1941; 43,041,774 for 1940; 45,800,633 for 1939; 49,795,922 for 1938; 104,178,804 for 1937; 135,000,000 for 1936; 76,000,000 for 1935; 56,000,000 for 1934; 101,000,000 for 1933; 57,000,000 for 1932; 110,000,000 for 1931; 220,000,000 for 1930; and 474,000,000 for 1929.

THE BOND MARKET

Bond sales on the New York Stock Exchange during 1943 totaled $3,254,716,525, as compared with $2,313,197,250 for 1942, $2,114,098,550 for 1941, $1,671,598,875 for 1940, and $2,048,237,875 for 1939.

During 1943 bonds maintained an unusually high and steady price level through the year. Using Moody's Bond Prices as a basis (*Commercial and Financial Chronicle,* Dec. 23, 1943), the monthly average for 120 domestic corporations stood at 108.7 at the end of January, 1943. Thereafter the average price fluctuated narrowly from month to month until the price stood at 110.7 on Dec. 21 (the latest available). This compares with high and low for 1943 of 111.44 and 108.7, with high and low for 1942 of 107.62 and 106.04, with high and low for 1941 of 108.52 and 105.52, with high and low for 1940 of 106.74 and 99.04, and with high and low for 1939 of 106.92 and 100. The Dec. 21, 1943 price was 3.43 points in excess of the price on the similar date in 1942. United States Government bonds stood at the high average level of 119.56 on Dec. 21, 1943, compared with high and low for the year of 120.7 and 116.85, with 118.41 and 115.9 for 1942, with 120.05 and 115.89 for 1941, and 119.63 and 13.02 for 1940.

The extraordinarily high price of bonds has brought the average bond yield to very low figures. According to Moody's Bond Yield Average, the average yield for all of the 120 domestic corporation bonds was down to 3.13 per cent on Dec. 21. However, for choice bonds, (the Aaa group) the yield was only 2.74 per cent, as compared with 2.82 per cent in 1942 and with 2.80 per cent on the corresponding date in 1941.

Using the Standard and Poor's barometer averages for a representative group of corporate bonds, the monthly high average stood at 106.4 for January, 1943. Thereafter the price fluctuated slightly from month to month, the monthly high average standing at 107.4 for February, 109 for March, 109.5 for April, 110.5 for May, 110.6 for June, 111.3 for July, 110.6 for August, 110.6 for September, and 111.3 for October (the latest available). The year thus showed a remarkably stable bond market, at an unusually high price level. It should also be noted from the accompanying table that the monthly fluctuation between high and low was very small, January being the only month which showed a range between high and low of as much as 1.9 points.

COMPOSITE BOND PRICES FOR 1943

	High	Low
January	106.4	104.5
February	107.4	105.8
March	109.0	107.4
April	109.5	109.0
May	110.5	109.5
June	110.6	109.1
July	111.3	110.4
August	110.6	110.2
September	110.6	110.2
October	111.3	110.1
November		
December		

(Source: Standard & Poor's *Trade and Securities,* Current Statistics, November 1943)

All American bonds listed on the New York Stock Exchange (1,098 issues) showed a total market value of $90,969,857,000 at the close of November, 1943. This value compares with $64,543,971,000 on the corresponding date of 1942, $54,813,000,000 in 1941, and $50,755,000,000 in 1940. It should be noted, however, that the substantial increase in the 1943 figure is largely attributable to the issue of large amounts of United States Government securities during the year. On Dec. 1, 1943, the average price of the aforementioned number of listed bond issues stood at 99.02, which compares with 96.11 at the corresponding date in 1942; and with 94.8 in 1941; 93.58 for Dec. 1, 1940; 91.24 for 1939; 90.34 for 1938; 92.36 for 1937; 100.55 for 1936; and 81.36 for the depression year of 1932.

THE MONEY MARKET

With respect to both time and call loan rates, the 1943 tendencies represented an exact continuance of the situation prevailing during 1942 and 1941 and the preceding eight years. As was the case during previous years, in fact as far back as 1933, New York time and call loan rates were quoted at only about 1 per cent or under. There was small demand for non-government funds, with respect to both commercial and speculative purposes. Beginning with a January average of 0.69 per cent for four to six months prime commercial paper, and 1 per cent for call loans in New York, the average monthly rates during 1943 remained extremely low month after month throughout the year. For prime commercial paper the monthly rate in New York averaged 0.69 per cent for January, and 0.63 per cent for every month during the balance of the year. These average rates are approximately the same as those prevailing during 1942, when the monthly rate averaged between 0.56 per cent and 0.69 per cent for all of the months of the year. For call loans in New York the monthly average remained uniformly at 1 per cent for each month of the year.

According to the New York Stock Exchange figures, (Dec. 1, 1943), the borrowings of New York Stock Exchange members on collateral securities continued to show a very small volume. The total of $718,000,000 for the first 11 months of 1943 compares with $342,000,000 for the corresponding period of 1942, $436,000,000 for 1941, and with the following totals, for the corresponding date, of $362,000,000 for 1940, $574,000,000 for 1939, $620,000,000 for 1938, $687,000,000 for 1937, $984,000,000 for 1936, $336,000,000 for the depression year of 1932, $2,162,000,000 for 1930, $4,017,000,000 for 1929, and $6,392,000,000 for 1928.

INTEREST RATES

	Commercial Paper 4–6 Months		Call Loans—New York Stock Exchange Renewals—Average of Daily Renewal Rates	
	1942	1943	1942	1943
January	0.56	0.69	1.00	1.00
February	0.63	0.63	1.00	1.00
March	0.63	0.63	1.00	1.00
April	0.63	0.63	1.00	1.00
May	0.63	0.63	1.00	1.00
June	0.69	0.63	1.00	1.00
July	0.69	0.63	1.00	1.00
August	0.69	0.63	1.00	1.00
September	0.69	0.63	1.00	1.00
October	0.69	0.63	1.00	1.00
November	0.69		1.00	
December	0.69		1.00	

Source: Standard & Poor's *Trade and Securities*, Current Statistics, November, 1943.

BANKING AFFAIRS

BY PAUL F. CADMAN

AMERICAN BANKERS ASSOCIATION

GENERAL

An outstanding feature in the current banking picture is the expansion of total deposits. Exclusive of interbank deposits, they have risen from $70,800,000,000 at the end of 1941, to $88,500,000,000 at the end of 1942, $96,300,000,000 on June 30, 1943, and to more than $100,000,000,000 at the end of 1943. Total deposit expansion in 1943 was approximately $15,000,000,000, and the increase of money outside the banks amounted to an additional $5,000,000,000. Thus buying power available increased between 20 and 25 per cent during the year 1943, and has been doubled since mid-1939.

LOANS

Banks have continued to assist in financing the war. Government securities now represent over 70 per cent of the earning assets of the banking system. Bank loans to industry to finance war production have steadily increased in volume. There were many inquiries concerning credit for post-war requirements.

A survey made by the American Bankers Association as of June 30, 1943 showed that 419 banks in 178 cities had outstanding loans or commitments to make loans, of $7,000,000,000, of which amount only one-half was guaranteed under Regulation V.

Commercial loans for non-war purposes declined through June, 1943, but since mid-year there were sharp increases in both commercial and security loans. Total consumer credit also increased after August, although installment credit continued to decline.

RESERVES

Banks experienced a steady drain on their reserves as the public withdrew currency totaling $5,000,000,000 during the year. The Federal Reserve banks replenished reserves by purchases of $4,000,000,000 of government securities in the open market and allowed reserve balances (and excess reserves) to decrease by $1,000,000,000. These purchases also supported the government security market and enabled the Treasury to maintain its established pattern of interest rates on war financing, ranging from 3/8 per cent on 91-day Treasury bills to 2½ per cent on the longest term bonds.

SERVICES TO THE GOVERNMENT

More and more responsibilities were placed on banks by the Government during 1943. In addition to selling government securities to the public, the banks have had to pay out and receive cash, and collect the increasing hundreds of millions of checks drawn on the United States Treasury. Thousands of new accounts have been opened in connection with the withholding tax. Ration coupon banking was put into operation during the year. Under this system, separate accounts are opened by each dealer for each rationed commodity handled. Plastic tokens for making change in ration coupons will shortly be supplied and will go into circulation through the banks.

OWNERSHIP OF DEPOSITS

Deposits increased as banks purchased government securities in conformity with Treasury policy. When these are disbursed by the Treasury to meet current obligations of the Government they come into the hands of individual owners as deposits or as currency. The total of deposits and currency cannot be decreased unless and until the Federal debt held by the banks is reduced or is sold by banks to the public. No matter how often the deposits and currency change ownership, the total is undiminished. Certain studies purporting to show the amount of current saving by the public have pointed to the large increases in deposits and currency, and since these must be owned by someone, have declared that they represented savings of the public. Under such reasoning, the greater the public debt held by banks, the greater would become the total savings of the people. New light has been shed by recent studies as to the ownership of deposits. The available evidence seems to indicate that most of the increase has gone into corporate accounts and represents larger requirements of business for working capital.

An inquiry by the Board of Governors of the Federal Reserve System, as of July 31, 1943, indicated that 69.6 per cent of demand deposits of individuals and businesses were owned by domestic business and that only 25.7 per cent of these deposits were personal accounts, including those of farmers. Banks with demand deposits of over $500,000,000 had aggregate personal accounts including those of farmers, equal to only 13.1 per cent of total demand deposits of individuals, firms, and corporations, while banks with demand deposits of under $5,000,000 had 50.1 per cent of the total in personal accounts.

It is evident that the present totals of business deposits include advances on contracts not yet completed, reserves for tax liabilities, and reserves for contingencies incident to contract cancellation and renegotiation. They can not be considered as available for post-war requirements until these items are calculated.

The extent to which corporations will finance themselves in the post-war years, and the extent to which owners of deposits will compete with banks in making loans due to the vast wartime expansion in the amount of deposits, becomes as important as the increasingly severe competition of those Federal lending agencies which are subsidized at the expense of the taxpayer. The American Bankers Association has taken a strong position against subsidized credits and against all types of guarantees and has urged the banks to be ready and aggressive in making loans without protection of guarantees in the post-war period.

INTERNATIONAL MONETARY POLICY

Plans for international monetary collaboration were examined by the Economic Policy Commission at the direction of W. L. Hemingway, president of the Mercantile Commerce Bank and Trust Company, St. Louis and at that time president of the American Bankers Association. The report is summarized as follows:

"With sentiment of the American people overwhelmingly for the principle of collaboration with other nations in dealing with post-war problems, we need to be making plans now for putting this principle into effect. The coming of peace must not find us unprepared. Bankers, in particular, have responsibility for studying these problems and equipping themselves for leadership in their communities in support of wise policies.

"The program we seek must not be too ambitious or attempt too much; grandiose plans are not likely to succeed, either of adoption or execution. Real progress must be founded upon the regenerative efforts of individual initiative and enterprise. These efforts can be aided through government cooperation and even at times by government participation, but the primary task is one of releasing the natural forces of recovery. People must be helped to help themselves.

"To remove obstacles and set free the pent-up forces of enterprise calls for action towards seven essential objectives:

> 1. *Relief*—temporary aid in the form of food and some minimum of raw materials and tools for ravaged nations to avert starvation and help restart industry; to be supplied through some form of lend-lease.

2. *Prompt peace*—early determination of as many as possible of the main peace conditions so that the governments and private individuals can make plans.

3. *Collective security*—establishment of some form of organization or guarantee to prevent war, thus lessening the fear of new conflicts, diminishing the incentive towards extreme nationalism, and avoiding the waste of resources in armament competition.

4. *Monetary stability*—collaboration between nations to restore currency stability, so that trade and enterprise can count upon the value of the money they use.

5. *Lower trade barriers*—with all nations to some extent dependent upon foreign trade and many nations largely so, efforts to broaden international commerce are necessarily part of any program for revival of internal economies.

6. *Reducing the swings of the business cycle*—because of the damaging effects of alternating booms and depressions upon all countries, particularly those dependent upon a few primary products, efforts to modify such swings are essential to an enduring post-war recovery.

7. *Making credit and capital available*—given a reasonable degree of security, private capital is ready to supply much of the international short-term financing and long-term investment needed. Some use of government credit may be necessary; but international credits should be made for sound purposes, in reasonable amounts and with expectation of repayment.

"For carrying out the program no single simple formula can be laid down, nor will any complicated elaborate scheme suffice. The problem is primarily one of understanding and of acceptance of the need for agreement among many peoples; of moving forward wherever and whenever opportunity offers, of tempering idealism with realism, and of adapting plans and organizations to the practical difficulties.

"The world learned in the rise of political democracy and the development of the free enterprise system what can be done when the natural energies of mankind are unchained. Great as these achievements have been, still greater opportunities lie ahead. The boundaries of human inventiveness and aspirations for progress are as yet uncharted. Our task is to call forth anew those energies that have been so productive in the past. Success in the program requires that the United States assume its full share of leadership with other great powers in creating the conditions that will bring about the desired results."

As a recognition of his contribution to the study of the problems of international finance, Mr. Hemingway was invited by the British Government to spend several weeks in the United Kingdom as its guest during late 1943. Conferences and conversations with the public and private financial leaders were productive of better understanding.

PARTICIPATION OF BANKS IN THE WAR EFFORT

At the 69th annual meeting of the American Bankers Association the resolutions adopted were as follows:

"American banking is an essential part of the American economic order. It is cognizant of its wartime duties and responsibilities. By the extension of substantial credit for war production, by leadership in the sale and distribution of war bonds to the public, by the liberal purchase of government securities for its own portfolios, by active participation in the 'Food-for-Freedom' program, by performing the service of ration banking, by acting as depositaries of withheld taxes, American banks have proved they can carry whatever responsibilities the war may yet impose. This they have done in the face of a continuing drain on their personnel, and notwithstanding rising costs and immense increases in the demand for normal services.

"We are fully aware that the war is not yet won. Heavier duties and greater sacrifices lie ahead. Banking is ready. We renew our pledge to accept whatever responsibility the cause of victory may require.

FINANCING THE WAR

"The cost of the war should be met by taxation to the maximum extent consistent with production, the maintenance of morale and incentive, the preservation of the economic structure, and the establishment by industry of adequate postwar reconversion reserves.

"Borrowing should be first from current income; then from the idle funds of individuals and corporations; and lastly, from the banks of the nation, the lending powers of which should be employed only to the extent necessary after exhausting the other two sources. It is in the best tradition of democracy that lending by individuals should be voluntary.

"We do especially commend and endorse the efforts of the Treasury to secure as wide a distribution of war savings bonds among our people as may be possible.

NON-ESSENTIAL EXPENDITURES

"While we recognize that the nation must resort to deficit financing as long as the war lasts, we urge that government reduce to a minimum the expense of its non-war activities. In calling upon individuals to make financial sacrifices in support of the war effort, government should set the example.

SUBSIDIZED AND SOCIALIZED CREDITS

"The American Bankers Association reasserts its opposition to the socialization of credit by government and to government subsidized credit as expressed in the statement of the Association made on January 21, 1943.

"In order to carry out the objectives contained in that statement, the Committee on Federal Legislation is hereby directed:

(1) to continue its efforts to secure legislative relief for chartered banking from the destructive effects of such credit;

(2) to seek enactment of Senate Bill 914, introduced by Senator Wherry;

(3) to seek forthwith and vigorously support a thorough Congressional investigation of the Production Credit System in order that the truth as to the soundness of methods and cost of operations may be ascertained and given to the members of Congress and to the taxpayers of the nation; to seek such appropriate Congressional action as may be required to protect the American system of chartered banking against its destruction through government subsidized lending operations. In order that the principles and issues involved in the Production Credit System may not be confused and complicated with those of other agencies, the Committee on Federal Legislation is directed to seek an investigation of the Production Credit System separate from all other agencies;

(4) to support the purposes of Senate Concurrent Resolution 8, introduced by Senator Butler, and

(5) to support the efforts of those farm organizations which are endeavoring to free agricultural credit from political control.

GOVERNMENT GUARANTEED LOANS

"War production financing inevitably required certain credit devices which cannot be justified after the termination of the War Procurement Program.

"Banking has made an impressive volume of war production loans under guarantees, and a substantially equivalent volume on its own responsibility. We now declare our belief that government loans or the guarantee of loans are not only unnecessary for the financing of post-war commercial enterprise, but are actually contrary to sound financial policy and the best interests of the American economy.

BANKING MANPOWER

"Banking has thus far met the demands made upon its personnel by the armed services. It is our belief, however, that any further depletion of banking manpower may cause a breakdown in our endeavors to render the services which are so important to this nation. We trust that the appropriate officials of government will give thoughtful consideration to this vital problem.

DUAL SYSTEM OF BANKING

"The dual system of chartered banks, state and national, is a product of our form of constitutional government. It has been an important factor in preserving the principle of states rights and has played a vital part in maintaining economic freedom and political democracy for the individual, the community, and the nation. Any successful attempt to unify the banking system under the domination of the Federal government would destroy this safeguard to basic rights and to independent enterprise. The American Bankers Association reaffirms its faith in the dual banking system and will support every effort for its preservation.

POST-WAR ECONOMY

"This Association supports the view that our own progress and well-being, and that of the world, require our active participation with other countries in dealing with post-war problems. Such participation may require generous aid in stricken areas to relieve distress. In addition there will undoubtedly be need of cooperation in measures to restore stability of currencies, broaden the flow of commerce between nations, and encourage international capital investment for rehabilitation and development. But any plan in which this nation may agree to assist in the stabilization or reestablishment of foreign currencies should incorporate the principle that the value of currencies be fixed in terms of gold. Financial and commercial relations with other countries should accord with sound business principles. While recognizing that enlightened self-interest calls for our participation in efforts to build a better world, yet we fully realize that achievement of the goal depends primarily upon the efforts of people everywhere to help themselves."

AMERICAN BANKERS ASSOCIATION

The American Bankers Association, the national organization of banking, includes in its membership 14,500 of the 16,200 state commercial, national, savings banks, and trust companies and other eligible institutions. The 1943 meeting was held in New York City, in mid-September. Attendance was restricted in accordance with wartime regulations. Officers of the Association elected for the year 1943-44 were: President: A. L. M. Wiggins, president, Bank of Hartsville, Hartsville, S. C.; Vice President: W. Randolph Burgess, vice chairman of the Board, The National City Bank of New York, New York 5, N. Y.; Treasurer: Wilmer J. Waller, president, Hamilton National Bank, Washington 5, D. C.; Executive Manager: Harold Stonier, 22 East 40th Street, New York 16, N. Y.

ASSETS AND LIABILITIES OF ALL BANKS IN THE UNITED STATES

The following table, compiled by the Comptroller of the Currency, shows the principal items of condition of all banks in the United States at the close of business June 30, 1943, with comparisons with Dec. 31, 1942 and June 30, 1942:

X. BUSINESS AND FINANCE

(In thousands of dollars)

	June 30, 1943	Dec. 31, 1942	June 30, 1942
Number of banks	14,661*	14,722*	14,815*
ASSETS			
Loans on real estate	$9,155,381	$9,373,003	$9,617,560
Other loans, including overdrafts	13,168,672	14,628,143	15,560,745
Total loans	22,324,053	24,001,146	25,178,305
U. S. Government securities:			
Direct obligations	55,176,155	43,184,881	27,287,165
Guaranteed obligations	2,786,903	2,874,230	3,075,858
Obligations of States and political subdivisions	3,775,406	3,926,485	3,974,821
Other bonds, notes, and debentures	3,554,741	3,755,131	4,027,470
Corporate stocks, including stocks of Federal Reserve banks	591,727	630,633	650,798
Total investments	65,884,932	54,371,360	39,016,112
Currency and coin	1,606,564	1,463,836	1,446,780
Balances with other banks, including reserve balances[1]	25,210,347	27,371,581	24,236,259
Bank premises owned, furniture and fixtures	1,162,458	1,189,800	1,204,320
Real estate owned other than bank premises	443,677	530,109	614,523
Investments and other assets indirectly representing bank premises or other real estate	111,317	122,402	127,781
Customers' liability on acceptances outstanding	61,279	46,132	67,961
Interest, commissions, rent, and other income earned or accrued but not collected	447,779	172,961	367,950
Other assets		273,250	
Total assets[1]	117,252,406	109,542,577	92,259,991
LIABILITIES			
Deposits of individuals, partnerships, and corporations:			
Demand	$54,286,973	$47,968,820	$39,983,386
Time	28,417,460	26,703,762	25,613,382
U. S. Government and postal savings deposits	8,163,576	8,506,607	1,902,191
Deposits of States and political subdivisions	4,855,015	4,523,373	4,454,371
Deposits of banks[1]	10,904,248	11,323,537	10,295,050
Other deposits (certified and cashiers' checks, etc.)	1,156,827	1,239,539	781,195
Total deposits[1]	107,784,099	100,265,638	83,029,575
Bills payable, rediscounts, and other liabilities for borrowed money	31,657	18,638	20,736
Acceptances executed by or for account of reporting banks	69,075	52,462	78,641
Interest, discount, rent, and other income collected but not earned	576,880	58,320	608,821
Interest, taxes, and other expenses accrued and unpaid		137,846	
Other liabilities		404,645	
Total liabilities[1]	108,461,711	100,937,549	83,737,773
CAPITAL ACCOUNTS			
Capital notes and debentures	94,691	99,202	104,171
Preferred stock	270,175	280,654	290,914
Common stock	2,614,581	2,605,535	2,603,601
Surplus	3,871,503	3,769,806	3,746,111
Undivided profits	1,406,340	1,322,567	1,270,261
Reserves and retirement account for preferred stock and capital notes and debentures	533,405	527,264	507,160
Total capital accounts	8,790,695	8,605,028	8,522,218
Total liabilities and capital accounts[1]	117,252,406	109,542,577	92,259,991

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* Excludes banks in Guam and The Philippines on account of the war.

[1] Excludes reciprocal interbank demand balances with banks in the United States.

TRUST BUSINESS

By Gilbert T. Stephenson
The Graduate School of Banking, American Bankers Association

TRUST CONFERENCES

A Wartime Trust Conference was held in New York City Feb. 9-11, 1943, and the Mid-Continent Wartime Trust Conference, in Chicago Oct. 14-15, 1943.

THE TRUST INSTITUTION IN WARTIME

Since Dec. 7, 1941, the trust institutions of the United States have been adjusting themselves to the wartime economy and to the needs of people for trust service during wartime. In December 1942 the Committee on Trust Policies published the following statement on the trust institution in wartime:

"In time of war many people have special need for the services of some one to care for and manage their property, for they are not able to give it their personal attention. This applies not only to men and women in the armed forces but also to many other persons diverted from their regular occupations by war work, all of whom are included in the term, 'persons engaged in the war effort.' It applies also to those who have been relying for trust service upon persons not engaged in the war effort.

"The trust institution is in the business of caring for and managing the property of others. Among the groups of people who, in wartime, especially need trust services of the kinds indicated are the following:

"Persons engaged in the war effort who own property and have dependents: 1. To help them to plan their estates so as best to meet the needs of their dependents; 2. To care for and manage their property and use it for the benefit of their dependents; 3. To accept nomination under their wills and thus be prepared to settle and administer their estates.

"Beneficiaries of estates and trusts originally in the hands of persons now engaged in the war effort: 1. To complete the settlement of these estates or to carry on for the duration of the war; 2. To continue the administration of these trusts for the duration of the war.

"Persons who already have named in some fiduciary capacity a person now engaged in the war effort: 1. For the duration of the war to accept nomination under their wills in substitution for the individuals now named; 2. For the duration of the war to accept appointments as successors to individual trustees.

"Living trusts and funded insurance trusts are good examples of trust services adapted to the needs of persons engaged in the war effort. Through a living trust these persons may arrange: 1. A complete yet flexible plan for taking care of and managing their property and providing for their dependents; 2. For the continuation of these services not only during any period of uncertainty as to their fate but afterward as well; and 3. By making the trust revocable, still be free, when they return, to continue, change, or terminate the arrangement as their judgment then dictates.

"Through a funded insurance trust they may obtain all the foregoing services and, in addition, provide: 1. For the payment of premiums on their life insurance; and 2. For the administration of the proceeds of their life insurance upon the maturity of their policies.

"The trust institution may have a vital part in winning the war: 1. By caring for and managing the property of persons engaged in the war effort and using it for the benefit of their dependents; 2. By completing the settlement of estates and continuing for the duration of the war the administration of trusts transferred from persons now engaged in the war efforts; 3. By accepting for the duration of

the war nomination as substitutes for and appointment as successors to individual fiduciaries; and 4. By advising with people on business and personal matters connected with estates and trusts.

"These trust services in wartime help immeasurably to preserve the economic stability of the country and to sustain the morale of the people."

WARTIME TRUST LEGISLATION

During 1943 the legislatures of 43 states were in session. A great deal of wartime legislation vitally affecting the trust business was enacted. What follows is a bare resumé of this legislation.

Arkansas, Idaho, Nebraska, Ohio, and Pennsylvania enacted statutes providing for the appointment of a trustee to take over and manage the property of persons missing in action and, upon order of court, to use income or principal or both for the support and maintenance of their dependents. The statutes provide for the trustee's accounting for his administration and for his turning over the property to the missing person if he returns or, if not, to his executor or administrator.

During 1943 Connecticut, Illinois, Kansas, Michigan, New Hampshire, New Jersey, Ohio, Rhode Island, and Wisconsin passed laws providing, in substance, for the continuance of an agency after the death of the principal, as to any dealings with third parties acting in good faith, without knowledge of the death. Mississippi has had a similar statute since 1880.

California, Illinois, Maryland, and Minnesota passed laws affecting alien or foreign heirs, distributees, and beneficiaries, providing for the handling of property left to them until they can come into possession of the property.

During 1942 New York, New Jersey, Pennsylvania, and Rhode Island enacted statutes providing for the transfer of estates and trusts from individual executors, administrators, and trustees called into military service before the service had been finished. During 1943, Alabama, California, Connecticut, Georgia, Illinois, Maryland, Michigan, Minnesota, Nebraska, New Hampshire, Ohio, and Wisconsin enacted similar legislation.

Other wartime trust legislation enacted in 1943 related to the execution and probate of wills of persons in military service. Illinois, New Hampshire, Washington, and Wisconsin provided for minors in military service to make valid wills. North Carolina made it possible for a person in military service to make a nuncupative (word-of-mouth) will. Maryland recognized as valid a will in the handwriting of the testator (holographic wills). North Carolina and Washington made it easier to prove the wills of persons in military service.

COMMON TRUST FUNDS

The year 1943 witnessed a notable increase in the number of states providing for the establishment of common trust funds under the management of banks and trust companies and for the exclusive use of their estates, trusts, and guardianships. Such statutes were passed in Alabama, Connecticut, Georgia, Illinois, Ohio, Washington, and Wisconsin; amendments to existing statutes were made in New York and Pennsylvania. At the present time the establishment of common trust funds is authorized by statute or by judicial decision in 23 states as follows: Alabama, Arizona, Delaware, Connecticut, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Missouri, New York, North Carolina, Ohio, Pennsylvania, South Dakota, Tennessee, Vermont, Washington, and Wisconsin. Common trust funds already exist in eight states as follows: Delaware, Connecticut, Minnesota, Missouri, New York, North Carolina, Pennsylvania, and Vermont. They may have been established in other states, and perhaps others soon will be established under the recent enabling acts adopted in Alabama, Connecticut, Georgia, Illinois, New York (vital amendment), Ohio, Washington, and Wisconsin. The common trust fund movement is gaining momentum at a noteworthy rate.

FOREIGN EXCHANGE

By Marcus Nadler
Professor, New York University

GENERAL

During 1943 the foreign exchange market was entirely dominated by the war. Foreign exchange transactions in practically all countries were under the close scrutiny of the respective governments and trading in it was greatly limited. This was owing to the fact that the foreign trade of the world is financed to a large extent by governments, and finance plays only a very minor role in these transactions.

Throughout the year the trade of the United Nations was financed primarily through lend-lease or mutual aid principles adopted by a number of countries. Such transactions do not affect the demand and supply of foreign exchange. The trade of Germany with the conquered and occupied countries as well as her satellites also does not give rise to any demand for and supply of foreign exchange. It is based either on straight looting or is financed through the huge compensations for the armies of occupation paid by the conquered countries to Germany or on a clearing arrangement which so far has worked out entirely in favor of Germany. Germany's trade with the neutrals is based practically on a barter system.

Japan's foreign trade during the war ceased to exist as such since all purchases made in the territories conquered or occupied by her are based primarily on what may be termed looting. Under these circumstances, therefore, the exchange markets, on the whole, were quiet and only minor fluctuations occurred.

KEYNES AND WHITE PLANS FOR CURRENCY STABILIZATION

During the year the greatest attention was focused on the plans that were suggested by British and American experts for the purpose of stabilizing the various currencies of the world. Of these the so-called Keynes and White plans are the most important. Under the Keynes Plan an international clearing house would be established and each country would be allowed a quota up to which it could draw on this clearing house. The institution would have no assets of its own but, through clearing arrangements, would place credits at the disposal of the various countries and thus enable them to make payments abroad to the limit of their quotas.

The plan presented by the United States Treasury advocates the establishment of an International Stabilization Fund with assets of its own to be subscribed to by the various countries. Under this plan, too, each country would be allotted a certain quota up to which it could draw. It is not the purpose of this article to analyze in detail the provisions of these plans and to point out their advantages and disadvantages. The aims of both plans are identical in that they seek to stabilize the various currencies of the world simultaneously, to establish an organization capable of preventing currency wars, and to establish better cooperation among the central banks of the member nations.

Both plans, as well as others, such as the Canadian plan, which is a modification of the United States scheme, recognize the fact that currencies can be stabilized and their stability maintained only if the balances of international accounts of the respective countries are adjusted and better cooperation exists among the various nations of the world. Neither plan was favorably received by the representatives of finance in the United States. However, it is quite evident that if currencies are to be stabilized some international organization will be necessary. At the end of the First World War the various currencies were stabilized with the aid of stabilization loans floated largely in the

United States. Most countries in Europe as well as in Latin America offered such loans in order to strengthen their central banks. It is quite evident that at the end of this war very few countries will enjoy sufficient credit standing to enable them to obtain credits abroad, without which they will not be able to stabilize their currencies unless they adopt very rigid foreign exchange control. Such controls, however, would mean a return to the unsatisfactory conditions as they existed prior to the outbreak of the war.

IMPORTANCE OF INTERNATIONAL ORGANIZATION

It is fully recognized that currency wars are greatly detrimental to international trade as well as to the establishment of sound international economic conditions. It is also highly desirable that the currencies of the world be stabilized at their true levels, reflecting their internal as well as their external purchasing power. The fact that France had undervalued the franc in 1926, when the currency was finally stabilized, had adverse effects on other countries. On the other hand, the over-valuation of the lira had adverse effects on the economy of Italy. Only if an international organization is established with adequate resources and authority would it be possible to prevent currency wars and to induce nations to stabilize their exchanges at what may be termed their true value.

POST-WAR OUTLOOK

During the war no important changes in the exchange market are to be expected. As the various countries of Europe are liberated from the Nazi yoke, one may expect that their respective governments or the Allied Military Governments will fix a rate of exchange in order to enable them to begin their reconstruction. It should be noted that when the Allied armies entered North Africa and later Italy, they immediately fixed the rates of exchanges of the local currencies.

The task of reconstructing the various European currencies will be a very difficult one indeed. Most currencies are highly inflated and it is impossible to state what their true value will be. Furthermore, the fact should not be overlooked that the productive capacity of a large number of countries will have been greatly reduced due to destruction by actual warfare and the activities of the Germans and that all will be denuded of raw materials. It is, therefore, quite evident that once hostilities have come to an end and it is possible to appraise the true state of affairs in the individual countries, drastic devaluation measures may have to be taken.

LATIN AMERICAN CURRENCIES

On the other hand, the stabilization of the currencies of the various Latin American countries will be relatively simple. The economies of all these countries have improved materially as a result of the war. Not only have they witnessed a substantial acceleration in the process of industrialization but also their economies have become more diversified so that they are today much less dependent on imports than was the case before. Furthermore, most Latin American countries have been able to accumulate substantial amounts of gold and dollar balances which will enable them not merely to pay for their huge imports of capital goods which are bound to take place in the post-war period but also to maintain the stability of their exchanges. In addition the balance of payments of the various Latin American countries has witnessed a substantial improvement due to a considerable extent to the reduction of their external indebtedness accompanied by a material decline in the external debt service.

NEUTRAL COUNTRIES

The stabilization of the currencies of the neutral countries in Europe, notably Sweden, Switzerland and Portugal, will also not encounter any material difficulties. They have been able to accumulate substantial amounts of gold and other foreign assets and their economies have not suffered to the same extent as those of the belligerents. While their imports will be substantial in the immediate post-war period, their foreign assets are large enough not merely to cover these imports but also to enable them to help other countries in stabilizing their own currencies.

PROBLEMS OF WAR RAVAGED COUNTRIES

During the war the exchange markets will continue to be dominated by war activities, and the financing of international trade will be concentrated primarily in the hands of governments. The greatest problem that will confront the world at large will be to stabilize the currencies of the various countries ravaged by war. If this should be done on an international scale, assisted by an international organization with sufficient assets and adequate powers, not only could the stabilization be achieved within a reasonably short period of time, but also it would eliminate currency wars and might lay the foundation for better cooperation among the various countries of the world. The final stabilization of the various exchanges and their ultimate rates of exchange will naturally depend on the terms of the peace treaty and on the degree of international economic cooperation that will exist in the post-war period.

FOREIGN TRADE

By Grace A. Witherow

Bureau of Foreign and Domestic Commerce, Department of Commerce

GENERAL

In the interest of national and hemisphere defense, statistical data revealing the commodity character and geographic distribution of United States foreign trade have been withheld from the public since the early months of 1941. It is, therefore, not possible to present in this volume the numerous details of foreign trade included in previous issues. However, figures showing the value of total exports and total imports and the balance of trade with the American republics have been released by the Department of Commerce during the war period, and considerable information regarding the lend-lease shipments appears in the eleventh report to Congress on Lend-Lease Operations. These published data are necessarily the basis of the information on United States foreign trade here presented.

EXPORT AND IMPORT BALANCE

United States exports in 1943 exclusive of shipments to our armed forces overseas attained a value of approximately $12,600,000,000, higher than in any preceding year. This value exceeded the previous peak value in 1920 by approximately 50 per cent. The nation's export balance, with both lend-lease shipments and cash-export trade considered, reached an all-time high of over $9,000,000,000. If lend-lease exports are excluded as falling outside the scope of ordinary foreign trade transaction, there was instead an excess of imports over cash-purchase exports totaling over $700,000,000, the first annual import balance the country has experienced since the decade of the 1870's.

This large dollar import balance was due to some extent to a decline in the value of cash-purchase exports from the 1942 level, although they ran higher in value than in the years 1931 through 1936. After increasing to $4,400,000,000 in 1941, partly owing to large British orders, cash-purchase exports showed a decline in 1942 to $3,100,000,000 and in 1943 to $2,700,000,000, decreases reflecting a shift to lend-lease goods in shipments to leading countries allied with us in the war effort. Under wartime conditions merchandise transactions on a cash-payment basis are confined largely to Western Hemisphere countries. Lend-lease shipments, particularly of implements of war, have displaced cash-purchase exports to a considerable extent in the trade with a number of Allied nations.

IMPORT TRENDS

Import trends during the year were decidedly upward; each quarter recorded gains over the preceding quarter, and the year's import total reached a value of $3,400,000,000, higher than in any year since 1929. The rise in value accrued partly from further price increases in 1943. The actual quantity of goods received was somewhat smaller than in the recent high years of 1936, 1937, and 1941, but with these three exceptions, the volume exceeded that of any other year since 1929. If shipping facilities had been adequate in the early months of the year to carry all merchandise available for import as well as supplies to war zones, the import total would have been still higher, despite the disappearance of trade with the Far East, including the important items of rubber, silk, and tin.

The Latin American Republics supplied in 1943 substantial quantities of certain commodities formerly procured largely from the Far East, as well as increased quantities of some of the items usually imported from them. Although the United States through its policy of assisting in sustaining the economies of the other American Republics by allocating to them scarce commodities on a basis comparable with domestic requirements made relatively large

TABLE I

UNITED STATES EXPORTS, IMPORTS, AND BALANCE OF TRADE, 1936-1943

(In million dollars)

Period	Total Exports, (Cash-Purchase and Lend-Lease)	Lend-Lease Shipments	Cash-Purchase Exports	General Imports	Balance of Cash-Purchase Trade	Balance of Total Trade (Cash-Purchase and Lend-Lease)
Yearly:						
1936–38 (average)	2,967	....	2,967	2,489	+478	+478
1939	3,177	....	3,177	2,318	+859	+859
1940	4,021	....	4,021	2,625	+1,396	+1,396
1941	5,147	740	4,407	3,345	+1,062	+1,802
1942	8,036	4,878	3,158	2,742	+416	+5,294
1943[a]	12,600	9,900	2,700	3,400	−700	+9,200
Quarterly:						
1941						
First quarter	985	1	983	730	+253	+255
Second quarter	1,102	57	1,045	864	+181	+238
Third quarter	1,250	225	1,025	822	+203	+427
Fourth quarter	1,811	458	1,353	928	+425	+882
1942						
First quarter	1,589	699	890	779	+111	+810
Second quarter	1,900	1,132	768	641	+127	+1,260
Third quarter	2,085	1,327	759	596	+163	+1,489
Fourth quarter	2,461	1,720	741	727	+16	+1,735
1943						
First quarter	2,438	1,794	644	711	−67	+1,726
Second quarter	3,066	2,469	597	831	−234	+2,235
Third quarter	3,688			896		+2,792
Fourth quarter[a]	3,400			970		+2,430

[a] Partly estimated: total exports and imports include estimate for Dec.; lend-lease shipments, estimate for last half of year.

Source: Foreign Trade Division, Bureau of the Census, and the Eleventh Report to Congress on Lend-Lease Operations.

shipments in 1943, the excess of merchandise imports from these countries over exports to them increased to more than $500,000,000. The substantial import balance in this trade accounted largely for the high net import balance in our cash, or commercial, foreign trade in 1943.

LEND-LEASE EXPORTS

Large lend-lease shipments have constituted the outstanding feature of the export trade of the United States since 1940 and the main factor in the rise in value of total exports and the export balance. These shipments became possible through the Lend-Lease Act, which became operative in March 1941 before this country entered the war and provided assistance to countries resisting Axis aggression in obtaining military supplies and foodstuffs by permitting the transfer of goods procured and paid for by the United States Government. Lend-lease goods comprised about 14 per cent of the total value of exports in 1941, rose to 61 per cent in 1942, and by the middle of 1943 reached nearly 80 per cent. Shipments increased in value from $740,000,000 in 1941 to $4,900,000,000 in 1942, and reached nearly $10,000,000,000 in 1943 (Partly estimated; see footnote Table I).

COMMODITIES EXPORTED UNDER LEND-LEASE

According to the Eleventh Report to Congress, commodities exported under lend-lease in the period July 1942-June 1943 consisted more largely of munitions than in the preceding fiscal year. Munitions, a term used to include ordnance, ammunition, aircraft, tanks, motor vehicles, and watercraft, constituted 56 per cent of these shipments, as compared with

TABLE II

LEND-LEASE SHIPMENTS AND TYPE OF GOODS AND DESTINATION

(Fiscal Years ended June 30, 1942 and 1943)
(Value in million dollars)

Type of Goods and Destination	Value		Percentage of Total Lend-Lease Shipments	
	1941-42	1942–43	1941–42	1942–43
Total Lend-Lease shipments	2,514	7,310	100	100
Destination:				
United Kingdom	1,366	3,056	54	42
U.S.S.R.	512	1,931	20	26
Africa, Middle East, and Mediterranean area	277	1,074	11	15
China, India, Australia, and New Zealand	273	858	11	12
Other areas	86	390	3	5
Type of goods:				
Munitions[a]	1,056	4,094	42	56
Industrial items[b]	704	1,901	28	26
Agricultural products[c]	754	1,316	30	18

[a] Ordnance, ammunition, aircraft, and parts, tanks and parts, motor vehicles and parts, and watercraft.

[b] Machinery, metals, petroleum products, and other industrial items.

[c] Foodstuffs and relatively small amounts of nonfood agricultural products.

Note: The data shown in this table represent practically the whole of lend-lease shipments through June 1943. In the period March through June 1941 lend-lease exports were valued at $58,000,000 distributed as follows: United Kingdom, $36,000,000; Africa, Middle East, and Mediterranean area, $12,000,000; China, India, Australia, and New Zealand, $2,000,000; and other areas, $8,000,000. In January–June 1943, the latest half year shown in the Eleventh Report to Congress, such exports were valued at $4,263,000,000: United Kingdom, $1,889,000,000, (44 per cent); U.S.S.R. $1,093,000,000 (26 per cent); Africa, Middle East, and Mediterranean area $575,000,000 (13 per cent); China, India, Australia and New Zealand, $439,000,000 (10 per cent); and other areas, $267,000,000 (6 per cent).

Source: The Eleventh Report to Congress on Lend-Lease Operations.

42 per cent in 1941-42. Industrial items represented 26 per cent and agricultural products, mainly foodstuffs, 18 per cent, as compared with 28 and 30 per cent, respectively, of smaller total shipments in the preceding fiscal year. Although exports of foodstuffs and other agricultural products nearly doubled in value from 1941-42 to 1942-43, increasing from approximately $754,000,000 to $1,300,000,000, and industrial items advanced from $704,000,000 to $1,900,000,000, exports of munitions, or implements of war, quadrupled in value, rising from $1,056,000,000 to $4,094,000,000. Industrial items in lend-lease exports consisted largely of metals, machinery, and petroleum products, while foodstuffs included meats, eggs, dairy products, grains, fruits, and vegetables.

DISTRIBUTION TO THEATRES OF WAR

Since inception of lend-lease operations, the four main theaters of war—United Kingdom, Union of Soviet Socialist Republics, Mediterranean area, and the Far East—have ranged, in the order named, as destinations of exports under this arrangement. In 1942-43 slightly over two-fifths of total shipments were assigned to the United Kingdom, and shipments to U.S.S.R. which nearly trebled as compared with the preceding year, represented approximately one-fourth of total lend-lease shipments. Exports to the Mediterranean area and the Far East, also showing large percentage increases over 1941-42, accounted for 15 and 12 per cent, respectively, of total lend-lease shipments. Percentages of distribution and value of lend-lease exports to each theater of war and the type of goods included are shown in the above Table II.

SIGNIFICANCE OF THE YEAR'S TRADE

The marked expansion in export and import trade in 1943 reflects, on the one hand, the United States' extraordinary contribution to the war effort of the Allied Nations through lend-lease shipments and the considerable allocation of scarce commodities to Western Hemisphere countries in support of civilian economies. On the other hand, it demonstrates our ability to acquire strategic materials and foodstuffs from avail-

TABLE III

SHIFT IN BALANCE OF MERCHANDISE TRADE WITH THE OTHER AMERICAN REPUBLICS

January 1940–September 1943[a]
(In million dollars)

Country	Calendar Year			January–September 1943
	1940	1941	1942	
Total, 20 Republics	+63	−106	−271	−371[b]
Panama, Republic of	+15	+30	+25	+22
Mexico	+21	+61	+23	−14
Cuba	−21	−55	−31	−104
Argentina	+24	−57	−78	−73
Bolivia	+2	−15	−13	−9
Brazil	+5	−36	−66	−51
Chile	−22	−54	−100	−78
Colombia	+4	+13	−49	−43
Peru	+5	+8	+6	+4
Uruguay	−6	−21	−3	−27
Venezuela	+28	+19	+27	+21
Other countries	+8	+3	−13	−20

[a] Excess of exports (+); excess of imports (−).
[b] Total excess of imports for 1943 reached $500,000,000.
Source: Foreign Trade Division, Bureau of the Census, United States Department of Commerce.

able sources, a factor which, together with the ingenious development of substitute materials, made possible the enormous production of implements of war during the year far above the anticipated levels. The high total quoted for exports understates the outward movement of goods, as it excludes shipments to our armed forces abroad. Similarly, the import value does not fully represent foreign goods made available to the United States since it takes no account of reverse lend-lease supplies. Nevertheless, the export and import data do significantly depict an important part of our war effort, a phase that overshadowed the customary business operations of foreign trade in 1943.

LIMITATIONS AND CONTROLS UPON INTERNATIONAL TRADE

By Henry Chalmers

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WAR AS A TRADE FACTOR

The progress of the war and its insatiable demands for ships, equipment, and supplies were the prime determinants, during 1943, of what was possible and what was allowable in the way of shipments of goods between countries. These extraordinary forces have not only been overriding the free choices of merchants; they have also rendered quite subordinate the tariffs and other usual foreign trade controls of individual governments, and the normal trade-negotiation activities between governments. As such, they have become the primary influences upon the commercial policies of governments and upon the consequent pattern of foreign trade.

The course of the war has, necessarily, been determining the basic accessibility of the various regions and countries of the world to each other. Next in importance only to the military operations themselves have been the developments in the respective war-production programs to support them, and the changes in the transport facilities available for ordinary commerce, after satisfying prior military demands and taking account of war losses and replacements. Consequently, the official controls and facilities designed to govern the movements of goods between countries have either been adapted to the furtherance of the war-production and delivery programs, or have had to operate within the framework that they set and the limitations they imposed.

The high degree of official control over both exports and imports now reached in practically all countries is probably unprecedented in modern times. Moreover, the controls of individual governments have, during the war, become increasingly tied in with arrangements and decisions of an intergovernmental character. Under the circumstances, the commercial considerations and channels normally involved in transactions between peoples in different countries now have free play only in so far as they serve—or at least are not inconsistent with—the national interests of their respective countries. These national interests, in turn, need to be viewed by individual governments in the light of their interdependence with the interests of other friendly governments.

Despite these limitations, the volumes of goods to meet ordinary civilian needs that were exchanged during the past year, at least between most of the Allied and neutral countries, came to a surprisingly large percentage of the foreign trade that they normally carried on during the pre-war years. Of course, these wartime trade movements have differed considerably from the pre-war, in the relative importance both of the various classes of goods and of the different sources and destinations. The fact, however, that these countries have been able to maintain so large a part of their normal volume of commercial exchanges, in the face of the war and alongside of the huge shipments of military supplies, seems significant as well as gratifying.

Moreover, despite the degree of governmental and intergovernmental intervention in the direction of international trade, and the large amounts of bulk purchasing by or through official agencies, the major part of the goods moving between the non-Axis countries—other than military equipment—appears to have continued to be actually channeled through private trading firms, both in the countries of origin and of destination.

RESTRICTION OF TRADING OPPORTUNITIES FOR AXIS-CONTROLLED COUNTRIES

The major military developments during 1943 themselves tightened further the seclusion of the two isolated Axis-controlled regions, on the continent of Europe and in the Far East, from trade intercourse either with each other or with the outside world. On the other hand, while the areas accessible to the commerce of the non-Axis nations have thus far been only slightly enlarged by the military campaigns, the Allied military progress of the past year reopened shorter and more direct routes between important regions, and rendered much more secure some of the sea lanes that had been open to the Allied and friendly nations at its beginning.

The forced withdrawal of the Axis armies during the year from their last foothold in North Africa, and progressively from Sicily and southern Italy, has not only cut off Germany from trade with these liberated areas themselves; it has practically closed off German-dominated Europe from commercial contact with the rest of the Mediterranean basin, except Spain and Turkey, and with those countries trade is now largely limited to what can be moved overland. The regaining of the wide belt in eastern Europe by the Russian forces has not alone restored most of the Ukraine and the adjacent territory to Russian use; it removed the concern felt at the beginning of the year, lest the hold of the Germans upon the Black Sea and the Caucasus might be extended to give them access to the supplies of petroleum and other valuable materials from that region, and from the Asiatic countries beyond.

IMPROVEMENT OF TRADING OPPORTUNITIES FOR NON-AXIS COUNTRIES

Outside of the two Axis-controlled regions, most international trade routes have been kept substantially open. They were made safer and even enlarged somewhat during 1943, by the operations of the British and American naval and air forces, with increasing convoy assistance from the smaller navies of other Allied countries, notably of Canada and Brazil, in their respective regions.

The reopening of the Mediterranean by the Allies' military progress in that region during 1943 not only gave them access to the liberated areas of North Africa and Italy; it has restored the use of the shorter, direct route between the North Atlantic and the Middle East. By allowing quicker turn-arounds than had been possible by the Cape of Good Hope route, this has resulted in the delivery of greatly increased quantities of munitions and supplies to the countries of the Middle East and, across the rapidly-improved ports, highways and railroads of Iran, to the Soviet Union.

Commercially, it has also made possible an appreciable revival of a two-way exchange of ordinary commodities with certain areas around the Mediterranean. Possibly the most striking instance was the plan reported in November 1943 for the resumption of shipments of citrous fruits from Palestine to England for the first time since the Italian entrance into the war in 1940 practically closed the Mediterranean to normal commerce. These shipments were to be made under governmental auspices, by arrangements between the British Food Ministry and the Palestine marketing authorities.

In return for the general merchandise being supplied to the French African peoples by the United States and the United Kingdom, through their joint North African Economic Board, sizable counter shipments of phosphates and other minerals from those areas have already been resumed. The continuation of military activities in the Mediterranean has thus far prevented the restoration of commercial transactions with North Africa and the adjacent Italian areas from official to direct private channels, although the official directing agencies have expressed their hope that this may not be long deferred.

From a commercial point of view, the areas in eastern Asia and the adjacent islands which had been overrun by the Japanese since December 1941 were not materially reduced during the past year. The Aleutians, the Gilberts, and the Solomons, and the portions of New Guinea and adjacent islands that were recaptured from Japan during 1943, are not in themselves of commercial importance. However, their possession by the Allies shortens and renders more secure the sea lanes between the United States and Australia and the southwest Pacific generally.

TRADE INFLUENCE OF EASEMENT IN ALLIED SHIPPING POSITION

The mounting output of the Allies' shipbuilding during 1943, joined with the 60 per cent reduction in sinkings by the increasing success of operations against Axis submarines, had by the latter months of the year considerably eased the shortage of merchant shipping in the non-Axis world. (The remainder of this article will deal with the trade forces and controls of the past year among the non-Axis countries only. The character of the official controls and general conditions of trading within the two Axis-dominated regions, as they developed during the earlier years of the war, have not changed substantially from the accounts given in the corresponding articles in The American Year Book in recent years.) This had for over a year been the basic limitation, upon both the delivery of goods to many countries and upon the bringing of essential products from them.

The easement from the availability of more ships was in addition to the increased effectiveness of existing shipping, arising from the shorter and safer sea routes made possible by the Allied military progress during 1943, earlier mentioned. In fact, not the least commercial advantage to the Allied and neutral nations from the reopening of the Mediterranean was the release of more ships for use on other trade routes. The abatement in the risks of sea transport of merchandise also reduced its costs, which was reflected in the series of marked reductions during 1943 in the surcharges on ocean freight rates and in the war risk insurance premiums to various major trading regions.

The marked improvement in the Allied shipping position has recently been making possible not only a substantial step-up in the flow of military supplies to the various war fronts and bases, but also a fuller and freer movement among the Allied and friendly countries of their enlarged aggregate outputs of all classes of goods, including civilian supplies as well as materials for war purposes.

The latter months of 1943 witnessed the transport from distant places to the principal Allied countries of increasing quantities of various types of commodities, both essential and secondary, some of which had been undeliverable the preceding year because more urgent needs absorbed the ships available. Thus, the termination of coffee rationing in the United States at the end of July, the more ample supplies of sugar, tea and cocoa, and the recent reappearance in the markets of bananas, all reflect the easement in shipping as well as the improved safety of the Atlantic and other sea lanes.

Among the more essential commodities, it has been possible to build up increased reserves in the United States, for example, of vegetable oils from Latin America, cork from North Africa, burlap from India, and wool from Australia and elsewhere. This has been carried to a point where governmental agencies are now able to release their stocks of such materials more freely to private industry to be processed for civilian use.

In the other direction, the prior demands of their war production programs still limit what the United States, Great Britain, Canada, and other Allied workshops can spare in many lines for commercial shipment overseas. The more comfortable shipping situation of recent months has, however, been permitting somewhat better satisfaction of the civilian import requirements of each other, of friendly nations, and of the areas for which certain Allied governments have assumed special responsibility.

TRADE INFLUENCE OF ALLIED WAR PRODUCTION PROGRAMS

The cumulative result of the war-stimulated expansion of facilities and output in most of the countries outside the Axis-dominated regions, which the easement in shipping helped make more freely available to each other, was an enormous increase during 1943 in the quantities of goods that moved among them. Naturally, the great bulk of the goods consisted of material and equipment shipped for use in the respective war production programs of the major Allies, and for support of the vigorous military offensives by their forces on the various fronts. In fact, the attainment by the Allied nations of the ability to out-produce the Axis nations and to deliver the materiel on the fighting fronts, promises to be the decisive determinant in the ultimate outcome of the Second World War.

No definite measure of the volume of military supplies shipped out of their territories by the Allied countries during the war may ever be available. (A number of the principal Allied countries have suspended the publication of their records of foreign trade; only the United States makes a clear distinction between exports under lend-lease and for cash; and no countries make known the volume of the supplies sent to their own armed forces abroad or for their oversea bases of operation.) It is known, however, that the magnitude of such shipments during 1943 was several times that of the ordinary goods that moved between countries during the most prosperous of peace years, and quite dwarfed the volume of the commercial shipments for civilian use that continued to move during the year. Despite these hugely enlarged shipments for war purposes, the indications are that normal commercial trade among the Allied and friendly countries, as a whole, were maintained at levels not much different from those of the preceding year. Apparently, the licensing governments and intergovernmental allocating agencies were able to make the enlarged volumes of output, attained during the year in most of these countries, serve both civilian and military needs.

For the United States in particular, there was evidence, during the latter months of 1943, that various classes of products, including metals and other recently scarce commodities, were becoming more freely available for civilian use and commercial exportation. This trend was assisted by the fact that the construction of most of the facilities for war production and training approached completion, and that the rate of output of finished articles in some lines passed the peak volume required by the military program, or was "cut back" to adjust to shifts in war-production plans. This easier supply situation,—while not general, and declared subject to possible tightening up later in 1944—has already been reflected in a material relaxation of the official controls that had been developed to regulate exportations from the United States, particularly to the countries of Latin

America. (For full analysis of the wartime integration of the import controls of the Latin American countries with the export controls of the United States, up to the introduction of the so-called "Decentralization Plan" in the spring of 1943, see article in *Foreign Commerce Weekly* for April 24, 1943. As the year closed, that plan was in the process of being considerably relaxed, by successive steps.)

The United States and Canada are the two principal belligerent Allied countries "located away from the fighting theaters of war," and have been in a position to spare sizable portions of their increased production in various lines for the other Allied and friendly peoples. They differ markedly in this respect from the Soviet Union and China, which require all they can produce for the support of the war on their own soil, and less markedly from the United Kingdom or Australia, which need to retain most of their enlarged output of goods for their own forces and those of their Allies stationed in their territories, and to maintain their populations in a state of war. The over-all records of American and Canadian foreign trade may therefore be regarded as generally indicative of the trend during 1943 compared with the years immediately preceding.

TRENDS IN COMMERCIAL FOREIGN TRADE

Based upon the published returns through November, the total recorded exports from the United States during 1943 promised to approximate $12,600,000,000, a record figure for all time. Nearly 80 per cent of this total consisted of merchandise shipped to the various United Nations under lend-lease, which is now running at a rate of about $10,000,000,000 a year. The spread of lend-lease operations among the belligerent Allies, as it had developed up to that time, was surveyed in an article in *Foreign Commerce Weekly* for March 13, 1943, to which reference is suggested. Since the authorities administering the lend-lease program publish full periodic reports on their operations, including reverse lend-lease, no detailed analysis of the developments in this field during 1943 is here necessary. (See Thirteenth Report to Congress on Lend-Lease Operations, filed Jan 6, 1944; the Twelfth Report, dealing with reverse lend-lease, dated Nov. 11, 1943; and the British "Report on Mutual Aid," of the same date.)

Despite the huge increase of about $5,000,000,000 over 1942 in the value of the equipment and supplies shipped abroad by the United States under lend-lease, and the undisclosed quantities of goods sent for the use of American armed forces abroad, estimated cash exports by United States firms during 1943 came to an aggregate value of about $2,700,000,000, or within one-seventh of that attained during the preceding year when military shipments were very much smaller. This is without taking account of the fact that part of the foods and other products consigned under lend-lease during 1943, particularly to the British countries, corresponded to what had been paid for in earlier years, when the recipients' supply of foreign exchange was more ample.

It will be recalled that during 1942, when United States shipments of merchandise abroad under lend-lease first attained large volume, the direct cash exports slightly exceeded in value that of the country's total exports during the years immediately preceding the war, with lend-lease shipments representing, mainly, additions to the past value of cash exports rather than their replacement.

United States cash exports to Canada, which does not receive lend-lease goods for its own use, and to the countries of Latin America to which the proportion shipped under lend-lease is relatively small, will probably be found to have equalled, if not exceeded, the value of the merchandise supplied to those countries during 1942. In any event, the cash exports of United States products during 1943 to both these regions were considerably larger than during the pre-war years, even allowing for the wartime advances in price levels.

Canada announced the value of the country's total exports during 1943 as $3,000,000,000 (Canadian dollars), an increase of $600,000,000 over 1942. This represents an all-time high in the exportation of Canadian products, amounting to several times the value of its average annual exports during the years immediately preceding the war. No separation precisely comparable to the United States distinction between lend-lease and cash exports is available for Canada. It is known, however, that a sizable part of the Canadian exports during the year consisted of shipments against the $1,000,000,000 Mutual-Aid fund voted in May, to cover war materials to be supplied to its various Allies. The preceding year, a similar amount was voted to cover war supplies shipped to the United Kingdom, for its own use and for redistribution to the other Allies. It seems fair to assume, therefore, that a substantial part of the past year's $600,000,000 increase in total Canadian exports consisted of enlarged commercial exports.

Since few of the countries have published the facts as to their exports for any large part of 1943, the import records of the United States, now the principal cash importer from most accessible countries, affords an indirect measure of the change in the volume of merchandise which those countries have been able to make available to world markets under the improved conditions prevailing in 1943. On the basis of the published trade returns through November, the United States purchases of the export products of foreign countries should approximate $3,400,000,000 for the year 1943. This represents an increase of $600,000,000 over 1942, and is nearly $900,000,000 greater than the average value of such commercial movements during the years immediately preceding the war. The principal sources of these increased importations into the United States were Latin America and Canada.

Canadian imports during 1943, as published for the first 11 months, were likewise running larger than during the preceding year, although not so markedly as the exports. They continued to be derived predominantly from the United States. Lend-lease goods did not figure appreciably in the imports of either Canada or the United States.

SUBORDINATION OF IMPORT CONTROLS TO INTERGOVERNMENTAL ARRANGEMENTS

For the third year, the decision whether a particular private transaction in international trade shall be consummated has come to rest in the majority of cases in the country of exportation, rather than in the country of importation. This has been particularly true of shipments from the United States, the United Kingdom and Canada, now the three leading exporting countries, to meet the civilian needs of the other countries of the British Empire, of Latin America, and of the other accessible areas, especially for manufactured products.

With war needs having first call upon goods that are in short supply at the time, as well as upon the shipping facilities available to the Allied Nations, the judgment of the authorities where the goods originate as to whether particular products can be spared for commercial exportation, and as to the availability of ships to carry them, are now the decisive considerations. Under the circumstances, the duties, licensing systems, or other controls upon imports and exports set up by the various countries before the war, and amplified during its earlier years, have become of quite subordinate importance. In comparison with the larger forces now determining the course of international movements of goods, earlier discussed, such limited changes as took place during 1943 in the duties and trade controls of individual governments were seldom of sufficient consequence, or stability, to require detailed examination in this brief general survey.

Broadly speaking, it might be stated that the official controls upon commercial trading among the Allied and neutral countries that were developed during 1942, the first year after the entrance of the United States into the war, were extended in some respects and relaxed in others during 1943, but on the whole were not radically changed in character.

As the war has spread in scope, the great bulk of the movements of commercial traffic between countries has become subject to the direct control or consent of governmental bodies, and, increasingly, the trade controls of individual governments have become dependent upon intergovernmental arrangements. Among the Allied Nations and those accessible to them, this situation has differed from the control of trade among the Axis-dominated countries, in that their intergovernmental arrangements are entered into voluntarily, and involve definite efforts to share supplies as well as shortages, so far as the prior requirements of military programs and shipping availabilities allow. (For an analysis of the principal intergovernmental arrangements to govern the wartime movements of goods among the non-Axis countries, see article in *Foreign Commerce Weekly* March 13, 1943, entitled "Economic Pooling and Lend-Lease Operations among the Belligerent Allies." As indicated above, they have not been radically changed in character since that time.)

PUBLIC ACCOUNTING

By James L. Dohr
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GENERAL

The year 1943 witnessed further developments in the uses of accounting, a marked increase in problems of an accounting nature, and an augmented responsibility on the part of the accounting profession in meeting the demands of wartime accounting. It is a tribute to public accountants that they have been able to meet these demands in the face of a serious manpower shortage. The purpose of this section of The American Year Book is to review the salient features of these developments in such fields as income and excess profits taxation, renegotiation, price control, contract termination, regulation of accounts, etc., with a view to indicating the increased importance of adequate accounting in the functioning of our economy.

UNDERSTANDING OF ACCOUNTING

The basic objective of accounting is to serve a useful purpose in the conduct of business, including at this juncture the production of the goods and services required for the prosecution of the war. If this objective is to be attained it is essential that accounting be understood because it is effective only when the facts which it discloses are translated into intelligent action. The basic difficulties in this respect are (a) the general failure to appreciate the problems inherent in the determination of profits over a period of time and in the statement of financial position at any given date, and (b) the general failure to appreciate the processes by which accountants deal with these problems. Profits and financial position involve a variety of elements and factors; while there is a measure of mathematical accuracy in the accounting processes, some of these elements can not be measured and expressed in terms of money; others can only be approximated on the basis of informed judgment. The first step toward an adequate understanding of accounting lies in dispelling the "illusion of certainty" under which the financial statements are commonly regarded. To do this it is essential, not only that the nature of profits and financial position be understood, but also that there be an appreciation of the accounting procedures used in the statement of profits and financial position. The American Institute of Accountants is keenly aware of this need, and it has taken various steps toward an improvement in the popular concept of financial matters.

ANNUAL PROFITS

As pointed out in this review in THE AMERICAN YEAR BOOK for 1942, the central problem of accounting is that of allocating business profits to comparatively short periods of time, usually the year. While relatively little difficulty would be experienced in determining the aggregate profits realized over the lifetime of an enterprise, the current allocation of profits to fiscal periods is fraught with difficulty. The allocation must be made, however, because annual statements of profits and financial position are essential for a variety of purposes. Approximations must be made as to various uncertainties; where a reasonable approximation is not possible, as is frequently the case, the facts are presented to the reader who must exercise his own judgment as to their significance. The uncertainties and the imponderables are greatly exaggerated in times of war, and wartime financial statements must therefore be considered with a full realization of the limitations inherent in accounting presentation.

GENERALLY ACCEPTED ACCOUNTING PRINCIPLES

In dealing with the problems of profit determination and statement of financial position, accountants have, over the years, developed methods and procedures which are used in solving those problems; these methods and procedures have to a very large extent been tested by long experience and found to be useful and adequate. Unfortunately there has been a substantial amount of divergence in these practices, and the "tolerances" resulting from permissible alternative practices have, to some extent, contributed to the failure to appreciate fully the significance of accounting data.

In order that there may be an adequate understanding of accounting, these accounting methods and procedures must be formulated as a body of "generally accepted accounting principles" and adapted to constantly changing conditions; the tolerances must be narrowed; the methods must be made clear to the readers of financial statements; they must be applied consistently in the preparation of financial statements so that the reader may assume, in the absence of a statement to the contrary, preparation in accordance with generally accepted accounting principles. The American Institute of Accountants has recognized these essentials, and through its committees on accounting and auditing procedure it has endeavored, over a period of years, to take part in the formulation of a body of principles, set forth in published bulletins, which are "generally acceptable," generally understood, and will be generally and consistently applied. The developments along this line in 1943 were largely a continuance of prior efforts in the fields of income and excess profits taxation, wartime reserves, renegotiation of government contracts and public regulation of accounts. In addition, the year witnessed further accounting problems arising out of the termination of war contracts and the increasing realization of the necessity for providing now, so far as is reasonably possible, for many phases of the post-war economy. The Institute committees have dealt with these problems.

PROFIT LIMITATION

The general policy of restricting war profits through the medium of excess profits taxes and renegotiation has continued. Under that policy the periodic determination of profits is essential. The outstanding difficulty in this procedure lies in the determination of the costs which must be recouped from the war revenues before a profit may be said to be realized. Manifestly such costs include preparatory expenditures and the day-to-day outlays made in the production of war goods or services, although many difficult problems of cost accounting arise in dealing with these items. In addition, recognition must be given to a variety of expenditures which will be required to liquidate war business and reconvert to peacetime operations, all of which are fairly chargeable against war revenues. This category includes such items as reconversion costs, separation allowances, deferred maintenance, amortization of war facilities, inventory losses, etc. These items involve even greater difficulty because of the uncertainty as to the amounts in which they will eventually occur.

The public in general has very little appreciation of the magnitude of these problems or of the difficulties inherent in the determination of war costs. Unfortunately the problem has been regarded by many as one of governmental subsidy, and by others as involving post-war costs, whereas it is, in fact, a simple matter of recouping war outlays from revenues arising out of war business. The crux of the matter lies in inclusion of these items in determining taxable net income under the tax law; in determining reasonable profits under the renegotiation statute; and in the determination of settlements under terminated war contracts. The advent of contract termination and the increasing attention directed toward post-war planning have served to direct greater attention to the problem, although it is, of course, one which requires consideration in the current determination of war profits.

INCOME AND EXCESS PROFITS TAXES

The continuance of extremely high excess profits tax rates has made the determination of taxable net income a matter of extremely grave importance. The present Internal Revenue Code is a matter of overwhelming complexity, and while there is considerable talk of simplification, it becomes increasingly apparent that simplification is not an easy matter, particularly in the face of war conditions. Accountants have been forced to deal with the complicated provisions of the Revenue Act of 1942; an additional burden has been put on the accounting profession as a result of the Current Tax Payment Act and the forward-shifting of tax payments; they currently face the prospect of additional problems due to the pending amendment of the Internal Revenue Code now before Congress. These problems have been further complicated by the linking of salary stabilization regulations to the calculation of taxable income under the income and excess profits tax law. The determination of taxable income and excess profits is essentially an accounting problem, and while the present Code contains many sound provisions, it also involves many glaring violations of sound accounting procedures.

The high rates of income and excess profits taxes give rise to many problems apart from those involved in determining tax liability. The difference between the income upon which the tax is based and income determined under generally accepted accounting principles is frequently of great significance. In addition, consideration must be given, in many business situations, to the tax consequence of various business transactions. Where, for instance, a proposed expenditure of $1,000 may result in a reduction of $800 in tax liability, there is introduced in the economy an artificiality which has profound consequences, and a burden is placed upon the accountant because of the general necessity of indicating, so far as possible, the facts and implications of this abnormal situation.

RENEGOTIATION OF WAR CONTRACTS

At the close of the year 1942 the possibilities of renegotiation of war contracts had introduced a substantial element of uncertainty into the computation of business profits. As a general rule the amounts of possible renegotiation refunds could not be reasonably approximated; as a result, a general statement as to such possibilities seemed to be all that could be required in financial statements. Experience under the renegotiation law during 1943 served in a measure to reduce the uncertainty; as a result of that experience numerous amendments may be made to the law. Accountants now take the position that it is possible, in many cases, to anticipate the possibilities of renegotiation and to incorporate provision for such possibilities in the financial statements. This is particularly true where the profits of the prior year have been renegotiated since such a renegotiation may be said to result in a presumption that the current year's business will be renegotiated on a basis no more favorable to the war contractor, although it is manifest that changes in products, methods of operation, selling prices, volume, etc. may well be such as to overcome the presumption. Under such circumstances it is felt that the possibilities of renegotiation should be approximated on the basis indicated by the prior renegotiation and that, where such an approximation is not made and included in the accounts, disclosure as to the reasons therefor should be mandatory. This requirement seems essential if the reader of the financial statements is to be fairly apprised of the company's renegotiation status.

CONTRACT TERMINATION

During 1943 the production of war goods and services reached maximum proportions in certain lines, with the result that a process of tapering off has begun; this process may be expected to continue to the end of hostilities. The resulting termination of a number of government contracts has directed attention to the problems arising in connection with the termination settlements, and accountants have been faced with the necessity of establishing accounting procedures as a basis for prompt and equitable adjustments as a result of such terminations. Appropriate procedures can be developed in this proving ground so that we will be prepared for termination on a large scale as a result of the end of the war.

In addition to the problems of cost determination, war contracts involve difficult problems of auditing or verification. It is manifestly important that the contractor's calculation of cost be verified in order to insure proper expenditure of public funds. This problem is particularly difficult in the making of settlements under terminated contracts. The volume of war contracts is such that the usual type of verification is, largely because of manpower shortage and the necessity of prompt action, out of the question. What is needed is a reasonable type of verification which will give the Government substantial protection and which will permit prompt and reasonable settlements with the contractors. The suggestion has been made that the duty of verification be placed in the hands of the General Accounting Office, but experience has shown that verification by such a department generally centers on relatively inconsequential matters, and that it is woefully inadequate where time is of the essence. The solution seems to lie in the development of special types of auditing procedures which can be applied by the services and public accountants and in which a substantial measure of reliance may be placed by the Government. The American Institute of Accountants has cooperated with the Government in an endeavor to work out such procedures.

WAR RESERVES

There is general agreement that, if business is to go forward in the post-war period, it must be adequately financed, and that prompt reimbursement must be made in the settlement of war contracts. As indicated above, this is not a matter of governmental subsidy or allowance for post-war costs; it is a matter of properly determining the war costs which should be recouped from war revenues. If the determination is made on a sound basis, business should be in a satisfactory financial condition when the war ends. It is therefore urged that allowance be made now, in such matters as income and excess profits taxation, renegotiation and contract termination, for all expenditures made and such further costs, attributable to war business, as can now be reasonably determined. To a limited extent recognition has been given to this objective by the post-war refunds under the tax law and by its carry-back provisions. Beyond this, however, there has been objection to allowances for war reserves on the ground that the amounts of such costs are conjectural and that if allowance is made of estimated amounts, there will be a tendency in the post-war period to make unnecessary expenditures in order to show costs in an amount at least equal to the allowances.

It seems evident, however, as the war progresses, that reasonable provision can be made now, in numerous cases, for such items as reconversion costs, separation allowances, deferred maintenance, etc. and that careful consideration should be given to these items in all phases of profit determination. The importance of such allowances in the successful conduct of the economy after the war can scarcely be overestimated.

REGULATION OF ACCOUNTS

In the governmental regulation of various industries, in the reorganization of railways and other enterprises in financial difficulties, and in the control of prices and inflation, adequate accounting data are manifestly of great importance; it is not surprising, therefore, that control over accounts is an important phase of regulation. That control must obviously be exercised in the light of the regulatory objectives. However, so far as accounting principles are concerned, a broad and general social objective is of paramount importance, and generally accepted accounting procedures must be formulated accordingly. There is a tendency on the part of regulatory bodies, as indeed there is on the part of anyone having a special objective, to warp generally accepted accounting principles to their own requirements, and to justify what is, in the final analysis, no more than regulatory expediency under the alleged sanction of accounting. The American Institute of Accountants is interested in the development of generally accepted accounting principles on a broad basis in the interests of all concerned. In view of this position the Institute has devoted a great deal of consideration to the accounting requirements and decisions of regulatory bodies; it has submitted its views to such bodies; in one case it went so far as to intervene, as *amicus curiae,* in litigation involving accounting. In so doing the Institute had no desire to interfere in any way with the exercise of proper discretion by regulatory bodies in the solution of their problems; it merely hoped to prevent the development or formulation of generally accepted accounting principles on any other than the broad base of social usefulness.

ACCOUNTING RECORDS AND REPORTS

In complying with the regulatory accounting requirements, appropriate records must be kept and reports prepared therefrom in the required form must be filed from time to time. The tremendous extension of governmental accounting controls as a result of the war has made it necessary to develop additional records and to file a great variety of reports with various governmental authorities. In addition to the comprehensive annual statements required for such purposes as income and excess profits taxation and the regulation of security transactions, various reports and statements are required in connection with control of raw materials, consumer goods inventories, price regulation, renegotiation, termination of contracts, American owned property in foreign countries, salary stabilization, etc. All of these matters involve additional record keeping. In many cases the burden upon accounting staffs is increased because of requirements involving classification on a different basis from that which appears on the accounting record. The demand for additional reports, in the face of a serious manpower shortage, has given rise to substantial criticism, particularly in view of duplications by various governmental agencies, and to demands for simplification. Simplification is desirable but, as in the case of income taxation, not readily achieved. The various agencies of the Government require information promptly, and the exigencies of the war situation are such that time is not available for a careful and comprehensive consideration of the over-all requirements. The burden has been a heavy one but on the whole the accounting profession has met the requirements of the situation in an adequate manner.

CONCLUSION

Intelligent action in any situation depends upon an adequate knowledge of the facts and an adequate analysis of the implications of such facts. In financial matters the material facts are developed through the accounting processes and presented, in the financial statements, in such a way as to permit the necessary analysis. In time of war many grave decisions must be made, and the necessity of adequate accounting data is greatly increased. In addition the uncertainties of the situation are such as to make necessary a full appreciation of the limitations inherent in accounting data.

To summarize, it may be said that in the year 1943 there was a growing realization of the importance of adequate accounting data in the conduct of the economy; that there has been a fuller appreciation of the significance of accounting statements and the methodology of accountants in preparing such statements. The increased responsibility has been a challenge to the accounting profession and its achievements during the year have been a magnificent contribution to the war effort. In addition, the problems which will arise after the cessation of hostilities will, in many respects, be quite as important as the problems engendered by the war. In view of the developments during 1943, there is every reason to believe that the postwar problems will be met with the same devotion that the accounting profession has maintained its ideals.

LIFE INSURANCE

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STATISTICS

It was 100 years ago, that is in 1843, that the first of the present large legal reserve life insurance companies began business. The development of life insurance since that time has not been as spectacular perhaps as that of the automobile business, for instance, but the results appear more significant the more one stops to think about them. The legal reserve life insurance in force as of Dec. 31, 1943 was about $139,000,000,000, or nearly 7 per cent greater than at the end of 1942, according to an estimate of the Association of Life Insurance Presidents which annually toward the end of each year gathers statistics enough to make reliable estimates of certain such figures. Comparatively less insurance has lapsed or been surrendered than ever before. The new paid-for coverage, not including revivals, increases, and additions, is estimated to be $12,700,000,000, or an increase of about 5 per cent over that in 1942. The new issues figure in the accompanying table includes revivals and the excess of all increases over certain decreases.

Protection in force of all legal reserve companies is shared by more than 100,000,000 individuals, counting both policyholders and beneficiaries. The total payments and credits to policyholders and beneficiaries for 1943 is about $2,400,000,000 of which approximately $1,100,000,000 has been to beneficiaries of deceased policyholders and the balance to living policyholders as matured endowments, annuities, surrender values, dividends, and disability benefits. Over 2,000,000

NEW ISSUES—TERMINATIONS—INSURANCE IN FORCE*

(Dollars in Millions)

	1942	1941	1940	1939	1938
ORDINARY BUSINESS					
New Issues	$ 7,387	$ 8,375	$ 7,506	$ 7,260	$ 7,506
Terminations:					
Death	743	742	743	718	719
Maturity	176	175	190	184	134
Surrender	1,046	1,302	1,502	1,620	1,689
Lapse	1,713	1,743	1,870	2,034	2,524
Other	932	931	1,006	1,101	1,125
Total	4,610	4,893	5,311	5,657	6,191
Insurance in Force	87,125	84,364	81,069	78,814	77,265
INDUSTRIAL BUSINESS					
New Issues	3,627	3,907	3,718	3,677	4,423
Terminations:					
Death	166	162	163	160	159
Maturity	89	86	83	55	43
Surrender	510	807	1,085	1,038	1,055
Lapse	1,521	1,508	1,730	1,767	2,181
Other	313	338	432	529	650
Total	2,599	2,901	3,493	3,549	4,088
Insurance in Force	23,346	22,280	21,344	21,140	20,986
GROUP BUSINESS					
New Issues	2,543	3,076	1,668	1,579	698
Terminations:					
Death	123	111	104	94	90
Lapse	338	110	73	82	113
Other	255	211	140	182	610
Total	716	432	317	358	813
Insurance in Force	19,862	18,029	15,381	14,023	12,803
ALL LINES OF BUSINESS					
No. of Companies	303	304	305	306	306
New Issues	13,557	15,358	12,892	12,516	12,627
Terminations:					
Death	1,032	1,015	1,010	972	968
Maturity+	265	261	301	239	177
Surrender+	1,556	2,109	2,587	2,658	2,744
Lapse	3,572	3,361	3,673	3,883	4,818
Other	1,500	1,480	1,550	1,812	2,385
Total	7,925	8,226	9,121	9,564	11,092
Insurance in Force	130,333	124,673	117,794	113,977	111,054

* *Spectator Insurance Year Book*—All United States legal reserve companies.
+ Including small amounts of Group Insurance.

annuity contracts are in force, representing a total annual income of over $650,000,000, secured by reserves of over $6,000,000,000.

The total assets, which represent the net accumulations of business over the last 100 years, saved to meet future claims on the $139,000,000,000 insurance in force, amount to about $37,700,000,000 of which approximately $12,600,000,000 has been loaned to the Federal Government. The increase during the year in the Government bonds was about $3,000,000,000, or an equivalent of 109 per cent of the increase in total assets for the year. This is possible because, not only has all the net excess of income over disbursements received during the year been invested in such bonds, but a considerable amount of previous investments which have matured or which have been sold have also been similarly invested. Over $2,000,000,000 was subscribed in the Third War Loan.

A brief analysis of the assets as of Dec. 31, 1942 held by 303 life insurance companies is as follows:

Real Estate	$ 1,659*
Mortgages	6,712
Bonds	21,429
Stocks	558
Collateral Loans	6
Premium Notes	95
Loans to Policyholders	2,587
Cash	725
Deferred Premiums	527
All Other Assets	633
Total Admitted Assets	34,931

* (Figures taken to nearest million)

There were decreases during the year in the following items: real estate, collateral loans, premium notes, loans to policyholders, and cash. Approximately 33 per cent of the total assets are now in U. S. Government bonds compared with about 18 per cent when the United States was forced into the war.

THE INVESTMENT PROBLEM

If space permitted, practically all the review in THE AMERICAN YEAR

INCOME—DISBURSEMENTS*

(Dollars in Millions)

	1942	1941	1940	1939	1938
Total Premium Income	$4,181	$4,080	$3,944	$3,825	$3,800
Investment Income	1,339	1,269	1,231	1,201	1,156
Other Income	509	506	483	427	401
Total Income	6,029	5,855	5,658	5,453	5,357
Death Claims Paid	993	990	977	943	934
Matured Endowments	268	264	275	242	176
Paid to Annuitants	159	152	142	134	123
Surrender Values Paid	454	573	589	732	771
Dividends to Policyholders	435	430	456	456	447
Disability and Double Indemnity	134	141	142	135	127
Total Paid Policyholders	2,443	2,550	2,681	2,642	2,578
Paid on Supplementary Contracts	241	233	213	184	176
Insurance, Taxes, Licenses, etc.	133	137	135	135	131
Other Disbursements	923	907	885	866	859
Total Disbursements	3,740	3,827	3,914	3,827	3,744

ASSETS—LIABILITIES—SURPLUS*

Assets	34,931	32,731	30,802	29,243	27,755
Liabilities	32,395	30,373	28,557	27,091	25,706
Surplus+	2,536	2,358	2,245	2,152	2,049

* *Spectator Insurance Year Book*—All United States legal reserve companies.

+ Includes amount set apart for dividends to policyholders during following year and special, voluntary, contingency, etc., reserve.

FRATERNAL INSURANCE*

(Dollars in Millions)

Year	Number of Orders	New Business	Amount in Force (End of Year)	Assets (End of Year)	Total Income	Total Disbursements	Net Amount Received from Members	Paid for Claims
1942	184	$467	$6,337	$1,402	$228	$157	$161	$109
1941	215	542	6,448	1,316	230	166	160	115
1940	215	522	6,282	1,253	223	166	158	118
1939	251	560	6,260	1,199	227	167	157	115
1938	243	559	6,348	1,134	218	162	155	111

* *Spectator Insurance Year Book*—All U. S. Fraternal orders showing figures.

Book for 1942, except the statistics, could be repeated here, especially the section on the contributions of the life insurance business to the war effort.

Still the principal problem of the life insurance companies, at least other than those due to the war, is the low interest rate earned on investments. Probably the vast majority of the people in the country, and probably even the majority of policyholders, are pleased at the condition of low interest rates, many of the latter without realizing how low rates increase the cost of insurance. In mutual companies dividends are paid out of excess interest earnings, mortality savings, and excess of premiums paid over the sum of expenses and the portion of the premiums that has to be saved to meet future claims. There has been little change in expenses in recent years, most at least of the increase in expenses being offset by increases in efficiency and curtailment of auxiliary services. Fortunately the mortality savings have been very good, the effects of the war so far having been approximately counterbalanced by improvement in the mortality rate among other policyholders. The claim payments resulting from deaths among the armed forces totaled $32,000,000 up to June 30, 1943.

Interest earnings, however, have decreased comparatively, and probably will continue to, as a larger proportion of the assets are invested in Government bonds at perhaps 2 per cent or 2½ per cent and as the average interest rate that can be earned on new investments after the war on securities, in which it would be thought safe enough to invest policyholders' savings, will probably be considerably below the average rate on old investments. The average net interest rate earned by all companies in 1942 was about 3.35 per cent as contrasted with 5.03 per cent in 1930. Probably very few policyholders realize the real effects of a drop in the interest rate. Suppose that a mutual company on a 3 per cent reserve basis earned a net rate of 4.5 per cent some years ago and now earns 3.25 per cent. The interest portion of dividends is not reduced in proportion to these interest rates but in both cases 3 per cent has to be earned on the reserve (which approximately equals the assets) so that, together with similar future 3 per cent interest earnings and the net premiums, sufficient reserve may be accumulated to meet future claims. Now it is only the excess interest earnings that go into dividends so that, under the assumptions quoted there is only .25 per cent excess interest earnings now as compared with 1.5 per cent previously; that is, the excess interest earnings are now only one-sixth proportionally of the previous. In nonparticipating companies the premiums on new policies have to be correspondingly adjusted to reflect what seems the probable future interest rate.

INFLATION CAMPAIGN

The cooperative advertising campaign of the companies against inflation has been welcomed and praised throughout the country. Fred M. Vinson, Director, Office of Economic Stabilization has written: "The Insurance Companies of the country through their advertising and publicity campaign are playing an important role in creating the kind of alert and public opinion which the country needs regarding inflation."

RESERVE BASIS ON NEW BUSINESS

During the year a number of companies changed their reserve basis on new business from 3½ per cent to a 3 per cent basis and some from 3 per cent to a 2½ per cent basis, some of the changes being to the American Men Table. Several companies have adopted a more conservative basis for annuity premiums and reserves. Some companies increased the maturity value required on endowments to provide a given income. There are a number of companies issuing such contracts maturing at ages 60 or 65, providing thereafter a life income with a guaranteed minimum return.

As to the proposed valuation and non-forfeiture law outlined in 1942, such laws have been adopted by 14 states, and it is thought that the proposed bases can be used in something like ten other states without changing the law. These laws are not finally effective until Jan. 1, 1948 before which date it is hoped that the companies will have time to revise all their calculations for premiums, non-forfeiture values, and reserve bases.

MISCELLANEOUS DEVELOPMENTS

It is reported that about 13,000,000 men and women in the armed forces have applied for about $92,000,000,000 of National Service life insurance.

A number of companies have introduced new forms of long term contracts, especially of contracts to age 65 which synchronize with Social Security benefits.

Due principally to a scarcity of medical examiners, a number of companies have liberalized their underwriting on non-medical business—increased the limit on insurance that may be taken, in some cases increased the age limit, or extended the benefit privilege to agents and territories who have not had this privilege before.

WOMEN UNDERWRITERS

A review of life insurance, it would appear, should cover not only recent events but trends and to some extent the present status. One article based on a survey of the position of women underwriters in the life insurance business went so far as to say that "the most outstanding feature of the last two years in life insurance is the development of the attitude that has come within the business toward women underwriters." From replies to questionnaires from 91 companies, it appeared that in most of them giving definite figures there were about twice as many such underwriters on the average as two years ago and in two companies excluded from this average the increase had been many fold. Also, about 26 per cent of the number of policies sold in the first six months of 1943 was to women as compared with 18 per cent in 1941. Most of the companies are definitely interested in securing women underwriters and in appealing to the women's market as an important source of new business.

DECREASE IN INSURANCE PERSONNEL

Personnel engaged in the life insurance business June 30, including home office and branch organizations and the full time agency forces, numbered 212,500 men and women according to a recent survey conducted by the Institute of Life Insurance. This overall figure represents a decrease of 13.6 per cent as compared with the pre-war period, this decrease having occurred during a period in which the total insurance in force has increased 12 per cent.

PENSION TRUSTS

A large volume of business has been issued recently by some companies in connection with pension trusts, a specialized field covering Group Annuities or Regular insurance issued on the individual members of a group of employees of one corporation. From the life insurance underwriting viewpoint most of the members of a well defined group of employees should be covered in any event in order to avoid too great selection against the company on this insurance which usually provides insurance to retirement age and which, in any event, does provide for retirement income in lieu of pensions thereafter. Premiums paid by the employer under various restrictions laid down by the Federal Government to prevent discrimination in favor of any individuals or small classes of individuals may be treated as ordinary expense for the employer's income tax purposes. The restrictions are so many and varied that virtually every case has actually to be approved by the Government before its status is clearly defined.

TRENDS IN OPTIONAL SETTLEMENTS

Special attention to some of the features of the life insurance business was brought out in the last statistical issue of *The Spectator*. One of the most important trends in recent years has been the increased use of optional modes of settlement which beneficiaries themselves select or have had selected for them by the insured. In lieu of the lump sum of insurance at death or maturity they then receive an annual or monthly income for a certain number of years, for life, or for life with a certain guarantee of minimum total payments all as provided by the options in the contracts. From a tabulation of 25 of the largest companies it appears that in 1930 it was arranged that about 12 per cent of the claims be paid under optional modes of settlement whereas in 1942 about 31 per cent were so arranged. The Institute of Life Insurance estimates that about 40 per cent or $400,000,000 will be left with the companies in 1943 and remarks that this has greatly increased the social significance of life insurance in the American economy, as the family protection has more nearly accomplished its purpose of continuing the breadwinner's incomes.

GOVERNMENT REGULATION

One of the fundamental features of most interest now is the question of regulation of insurance business by the Federal Government, the present activity being three-fold: first, an attempt to have employees of a fraternal society covered under the national wages and hours regulations; second, an attempt to prosecute fire insurance companies under the anti-trust laws; and third, an attempt to pass laws in Congress reiterating the Congressional attitude that insurance is not commerce. Federal authority as now set up would regulate insurance only if it is interstate commerce. Neither Congress nor the courts, including the Supreme Court of the United States, has ever previously treated the insurance business as commerce. It seems that such an interpretation is even more far fetched in the case of life insurance than in the case of fire. Especially as it is too early to predict the results of the three movements mentioned, this scarcely seems the time or the place for an impartial discussion of the question, which would take a great many pages if not a book. As a matter of fact, as far as the writer can judge, the life insurance companies have taken little interest in the question. Practically all of them have voluntarily attempted to make their conditions of employment at least as liberal, and generally more liberal, than any of the government requirements applicable to employees engaged in interstate commerce. As to anti-trust laws, most of the life insurance business is transacted by mutual companies. Competition is in service and net cost, and the competition between them would be just as fierce if all of them charged the same premium rates. Stock companies could not compete with mutual companies in the long run unless they issued comparable policies at comparable costs to the public. Most life insurance companies realize that what is of most real advantage to the public is for the best interest to themselves and *vice versa*.

One phase of the question may be mentioned which practically nobody realizes unless they are associated with the business and that is the extent of the present state supervision of insurance which enforces the restrictions the different states think are advisable for the welfare of the business and the country. The details of supervision need not be enumerated. Some account of them is given in a 589-page book by Edwin W. Patterson on *The Insurance Commissioner in the United States*, but it may be mentioned that the actual wording of policy forms of contracts has to be approved by the insurance departments and that periodically the companies are examined in detail by examiners of insurance departments. In the case of large companies doing business over most of the country, examiners are sent from the insurance departments, at least one each from the six districts into which the country is divided. These examiners spend months not only auditing the actual accounting records of the companies but studying any other phases of the business they care to, including claim adjustments and handling of investments. Insurance departments also have claim bureaus to which policyholders can apply, whether or not their complaints are justifiable, if they are dissatisfied with any act of a company. There may be a few other, but very few businesses in the country which are already so much regulated as the insurance business.

The men now attempting to establish limited Federal regulation deny that they have anything further in view than the specific points mentioned, but on the other hand there are even those who feel that the ultimate objective of some men in the Government is to take over the assets of the insurance companies. This appears fantastic but it would be an interesting study in the socialization of this and other countries to follow out how entering wedges lead from one change to another. For instance, even now there are those who suggest that life insurance companies should be compelled to furnish risk or venture capital which is needed for production of new inventions and other new developments and which, if available, would probably help stabilize conditions in the country and especially help avoid any condition of unemployment. No matter how desirable more liberal sources of venture capital may be, this is diametrically opposed to all previous thought as to life insurance company investments where the principal criterion has been safety. The risk of loss under venture capital is high, and under the present tax situation a large share of possible profits would be absorbed by taxes despite the fact that companies would have to bear the losses if any. Whatever, if anything, can be worked out to reconcile different viewpoints either in this respect or the more general question of Federal supervision should certainly be given most thorough consideration by everybody whose interests are involved.

FIRE INSURANCE

By Edward R. Hardy

Secretary-Treasurer, Insurance Institute of America, Inc.

FIRE LOSSES

The statistics of fire losses in the United States, as compiled by the National Board of Fire Underwriters, are shown in the accompanying table, giving figures for 1941, 1942, and 1943. The substantial increase in these losses in 1943 is illustrated by the fact that for the first 11 months of 1943 the total losses were $332,519,000, while for the 12 months of 1942 the total losses were $314,849,000. This increase is not due to any outstanding fire but rather to a succession of

FIRE LOSSES BY MONTHS

	1941	1942	1943
January	$ 26,470,000	$ 35,565,000	$ 27,733,000
February	26,102,000	30,819,000	33,175,000
March	31,471,000	30,505,000	39,214,000
April	29,330,000	27,960,000	34,241,000
May	25,637,000	23,233,000	29,297,000
June	24,943,000	22,410,000	26,854,000
July	23,698,000	21,000,000	25,016,000
August	24,122,000	19,680,000	29,193,000
September	24,668,000	20,443,000	26,488,000
October	30,833,000	22,621,000	29,661,000
November	23,822,000	24,144,000	31,647,000
December	31,261,000	36,469,000	47,716,000
Total 12 months	$322,357,000	$314,849,000	$380,235,000

fires of more than ordinary magnitude but not to any one which reached the height of a conflagration. One fire may be mentioned which occurred late in the year, although the loss is not yet known, and that is the fire in a cold storage plant which stored among other things a large number of fur garments. The claims are expected to reach $20,000. Probably one reason for the increase in the number of fires is that the strain on machinery has become greater with the constant running of manufacturing plants not eight hours a day or even 12 but from 16 to 24 hours. The accumulative pressure on the machinery gradually makes for larger losses when a fire occurs.

THE STANDARD POLICY OF FIRE INSURANCE

One of the most important changes in fire insurance in 1943 was the action taken in regard to the standard policy. Following the conflagrations in Chicago (1871) and in Boston (1872) one of the reforms introduced was the beginning of the movement to adopt a standard policy of fire insurance to be uniform in all the states. The first state to take action was Massachusetts in 1873, followed by other states, notably New York in 1887. For some reason or other the New York policy was the one which made the largest appeal to the different states and was adopted by many of them. The New York policy was revised and on Jan. 1, 1918 was put into effect. The growth of the business and the fact that there were several policies of fire insurance in force in different parts of the country led to a movement to secure first, the simplification of the policy, and second, its adoption for all the United States. This policy went into effect in the State of New York July 1, 1943, and by Dec. 31, 1943, it had been adopted by some 30 states and is continuing to be adopted by others. The probabilities are that it will be adopted by all the country within a year. This very desirable result, that is, a uniform policy for the whole country, will be of benefit to the insurer and the insured. It should be stressed that it greatly simplifies the contract and enlarges its cover without the addition of numerous clauses and/or endorsements which hitherto have been necessary.

WAR DAMAGE CORPORATION

In 1942 the War Damage Corporation was organized by the United States Government to take care of property losses which were caused by war. At the close of the first year, July 1, 1943, the premiums collected had assumed large proportions, and very few losses were obliged to be paid. So great was the difference that it was proposed in some quarters not to charge a premium for the second year's insurance; however, this was not adopted, and the premium was collected. Still no losses of moment have been sustained but an interesting case involving such losses has arisen, and the decision rendered might have significance for future claims under the law. While the losses and decision occurred during the first week in January 1944, they should be recorded here. On Jan. 3, off the northern part of the New Jersey coast, the United States steamer *Turner* was destroyed by an explosion. The range of the explosion was so great as to destroy property on shore. The question arose as to whether the War Damage Corporation would pay for these property losses, and on January 10 the announcement was made in the daily press that the Corporation would receive and adjust such claims. This is an approach, at least, to answering the question as to the type of claims that will be accepted as the liability of the Corporation.

THE ATLANTA CASE

The final decision in this case will be far-reaching whichever way it is decided. In 1943 there was tried in Atlanta the case brought by the United States Government against the companies, claiming that their method of rate-making was contrary to the Sherman Act, which forbade the making of rates by joint action

The act itself does not, of course, mention insurance companies. It so happens that before the adoption of this act the Supreme Court in 1868 decided that fire insurance was not commerce; hence, not subject to specific control by the United States Government, and since that first decision the case has been before the court several times, and the decision rendered in the famous case of *Paul vs. Virginia,* 1868, has been reaffirmed. The Government now raises the entire question as though it were a new one, and the decision rendered in Atlanta was in favor of the companies. The statement made by the presiding judge was that a decision made 75 years ago and reaffirmed several times by the Supreme Court should not be overruled by a lower court but by the Supreme Court itself. The decision of the Supreme Court probably will not be known for sometime, the case having been presented on appeal, but should the Government win it will mean a total revision in the method of conducting fire insurance.

FIVE HUNDRED FIRES

The National Fire Protection Association has published its second booklet covering the period Dec. 7, 1942-Dec. 7, 1943, listing the fires which they consider have directly hampered the war effort, *i.e.,* they occurred in plants where either vital materials were being manufactured for war production or else being stored. No totals are given for these losses because, until the losses are adjusted, there can be no proper statistical report, but the fact that there were this number and the fact that they occurred in all parts of the country is significant.

SABOTAGE

Contrary to public opinion there is no evidence to show that the increase in loss due to fire or in the number of fires is due to sabotage. The real reasons for the increase in the number of fires and in the amount of the losses may be summarized as follows: the continual use of manufacturing properties for 24 hours, the changing personnel, introducing new employees at a rate too rapid for them to be properly assimilated and trained in their new duties, and the changing processes of manufacture; as the war has progressed it has become necessary to change both the methods and the materials used in manufacturing war devices.

VOLUME OF BUSINESS

From the *Insurance Year Book,* 1943, published by The Spectator Company, the premium receipts for which the last year of complete statistics are available (1942) from all forms of underwriting—stock, mutual, Lloyds and reciprocal—amounted to $1,396,000,000. The total income including interest, rents, etc., amounted to $1,534,000,000. The losses paid amounted to $727,000,000 and the total disbursements, including of course all forms of expenses, amounted to $1,424,000,000.

MARINE INSURANCE

By Henry C. Thorn
Manager, Insurance Company of North America

THE ANTI-SUBMARINE WAR

The year 1943, like the three preceding ones, naturally caused the Marine Insurance market, as well as all other business, to be completely dominated by the war. During 1943, however, the initiative was with the Allies in all theatres. From the Marine Insurance standpoint first place must be given to the anti-submarine war. With the great increase in surface escorts, plus the air umbrella provided for Transatlantic and coastwise convoys, the submarine appears to have been defeated, though it is still a grave menace. According to best informed circles, the rate of destruction of the U-Boat seems to be as great or greater than the production. The summer of 1943 saw the sinkings of merchant vessels by U-Boats reach an all time low for this war. The British and American governments issued an official statement that in May, June, and July 90 U-Boats were destroyed. In October there was renewed aggressiveness on the part of the German Navy and vague references to new types of torpedoes guided by sound have appeared from time to time.

REDUCTION IN CARGO RISK RATES

Irrespective of this recent flurry, the generally favorable situation in sea warfare has resulted in repeated lowering of the cargo War Risk scale of rates; hull War Risk being largely a thing of the past in so far as the American market is concerned, the risk on American bottoms being assumed by the Government under the present method of operating ships under the War Shipping Administration. The import cargo business, what is left of it, is largely covered by the War Shipping Administration policies issued to the importer through the medium of the commercial Underwriters acting as underwriting agents of the War Shipping Administration. The first year of this arrangement was completed Aug. 1. As to exports, the business is largely covered in the commercial market, although the Government will insure exports only on a facultative basis.

In November the War Shipping Administration announced a new policy with respect to cargo War Risk Insurance which has the effect of the Government partially withdrawing from Insurance activity. This naturally means a great increase in the participation of War Risk Insurance by the American commercial market, and was the result of conferences that were held between the Government and the American Cargo War Risk Reinsurance Exchange. Concurrently with the Government's release, a sharply reduced schedule was announced by the commercial underwriters.

There is in addition to the regular London market a market known here as the "Outside Market" in London which, unfortunately, seems able to accept business at rates in some cases far less than the scale rates published in both the United States and the United Kingdom. The American Cargo War Risk Reinsurance Exchange which promulgates the rates here, tries to quote in accordance with their best judgment of the risk, and thus much business has left this side. In 1942 the Exchange members suffered some colossal losses, due especially to the submarine campaign waged off our Atlantic shores during the early months of active American belligerency, but 1943 went a long way towards making up for the bad days of the year before. The American Cargo War Risk Reinsurance Exchange started its fifth year on June 10. It has more than fulfilled the purpose for which it was formed and has at all times been able to give all its subscribers the necessary reinsurance facilities to cover any cargo offered. The spreading of the risks over the whole market and at established scale rates has proven of inestimable advantage to underwriters, brokers, and the assureds as well.

WAR RISK COVERAGE

In respect to the War Risk coverage itself several changes of major importance occurred during the year. The extended transhipment clause was adopted. This provided for uninterrupted coverage both ashore and afloat during periods of transhipment. Fairly stout additional rates were charged at first, which were halved as the general situation improved. As a practical matter, only a small percentage of assureds have so far availed themselves of this coverage. The Amended War Risk perils clause was adopted so as to fit in with the new F.C. & S. (Free of Capture and Seizure) clause, about which further mention will be made in later paragraphs. One other new coverage, of not too great importance was added, for a nominal additional premium, and that is the Ship to Shore clause which provided for War Risk coverage while in transit between overseas vessel and shore. This coverage is confined to risks in ports of the United States and its territories and possessions only. Another new clause entitled Limited War Risks Assumption clause was adopted to provide certain coverage for the assured whose Marine insurance became restricted due to the new F.C. & S. clause but had no voyage War Risk coverage to pick up the slack. This was available only within the continental United States, the charge being nominal.

CARGO INSURANCE AGAINST MARINE PERILS

In the field of Cargo insurance against Marine perils, much has happened. Due to the increasing demands of a war economy the United States Government has become the principal importer of practically all types of commodities. As to exports, the great bulk naturally consists of military and lend-lease shipments, on which no insurance is carried except in certain instances and then the insurance is placed in other markets by the consignees. There remains a fairly substantial amount of commercial export, especially to Western Hemisphere destinations on which Marine Insurance is carried as formerly. A certain amount of private importing still exists and commercial Import Open Policies still cover. The volume of premium has naturally shrunk very considerably.

THE NEW FREE OF CAPTURE AND SEIZURE CLAUSES

There have been many published references to the new American F.C. & S. clauses which were adopted and became effective July 1, 1943. This was possibly one of the most if not the most important change that has occurred in the American Marine market this year. This was brought about very largely by the necessity of clearly deciding just where certain so-called Twilight Zone perils fell, whether under the war coverage or the marine, a very confused situation arose as the result of the decision of the House of Lords in the Coxwold case. The purpose of the new F.C. & S. clause was to make clear that certain perils, such as collisions in convoy or with military vessels, stranding occasioned by the removal of lights, buoys, etc., would very definitely not be covered by the Marine policy. In order not to leave the assured "up in the air," however, both the Government and the commercial War Risk Insurance Policies were amended simultaneously so that the risks of which the new F.C. & S. clause relieved the marine policy, were picked up by the war coverage. In view of the different situation that exists in the London market, a considerable gap in coverage could exist where the War Risk was subject to the British war clauses and the Marine Insurance in America. As a practical matter the London market made provisions to take care of this gap under their war policy.

MARINE EXTENSION CLAUSES

Another change that had long been in the making, and one that should solve a number of difficult problems, was the adoption of the Marine Extension clauses, for which flat additional charges are made. Briefly, these charges include a further increase in the old wartime surcharges which had proven to be inadequate, and in addition, the new clauses hold the assured covered in the case of delays and deviations beyond the assured's control, but which, nevertheless, might otherwise interrupt a continuous coverage. In consideration of the new rates these new clauses resolve the doubts in favor of the assured. It might be mentioned here that, in naming the additional rates which are unquestionably substantial, the market agreed not to penalize vessels for age until they became 25 years old, with certain exceptions as to extremely small vessels and those flying certain flags. Hardly enough time has elapsed to judge the adequacy or inadequacy of the charges for the amended clauses. The results will of course be watched very carefully and appropriate revisions, either up or down, will be made as the result of the experience, after they have been in effect for a substantial length of time.

AMERICAN MARINE INSURANCE SYNDICATE "C" UNDERWRITING

In respect to Ocean Hulls there are no particular comments to be made with reference to War Risk as this is assumed by the Government. In respect to the Marine risk the Hull form of policy remains unchanged.

By and large, the underwriting results of the American Marine Insurance Syndicate "C" have been unsatisfactory. This is largely due to the fact that many vessels are running out of their customary trade routes and thus operating in waters for which the officers and crew have not had experience. In addition it must be borne in mind that the vastly increased number of vessels under our flag has required large numbers of new personnel to be trained within the limited time available, and necessarily crew members and officers are not as experienced as would normally be expected.

Rates are still quoted on an annual basis but usually subject to American Institute Trade Warranties, which are more restrictive than the London Institute Warranties. The Syndicate felt compelled to do this because in their opinion the age and type of construction of many ships already in service made them unfit for North Atlantic trade in which they would not have been except for the exigencies of War.

While the premium income has been maintained, this is largely due to the fact that quite a number of new "C" Type vessels have been turned over to private owners, though due to requisition and Bareboat Charter by the Government the size of the fleet insured in the market has shrunk to possibly two-thirds of the number insured in pre-war years. While this has produced the same premium income, it causes a greater concentration of risk. In other words, there is not the spread that there would have been with a larger number of vessels involved. It is true that rates have been increased, but the market has continued to lose money due to the hazards of navigation that are inseparable from wartime conditions.

BUILDERS INSURANCE

In October, 1942, the United States Navy decided to discontinue the requirement that full Builder's Insurance be carried on vessels being constructed for the Navy in private yards. Instead the Navy instituted a program of requiring builders to carry Collision Liability and P & I (Protection and Indemnity) only. This arrangement, which continued throughout 1943, naturally reduced the premium income to a mere fraction of that secured in previous years.

The Maritime Commission adopted a similar plan in respect to the great Commercial Fleet now building. The changes in plans are noteworthy in that many speedier Victory Ships have been decided upon, although these will not come into service until 1944. This new type of vessel is being built in addition to the slower but more easily built Liberty Ships which were constructed rapidly and in huge numbers in order to meet the almost limitless demands for tonnage required for a global war. This was especially true during the period of the submarines' greatest activity.

WAR RISK INSURANCE IN THE PRIVATE MARKET

As was the case with the ocean fleet, the private market was called upon to furnish very little War Risk insurance in 1943 on miscellaneous Inland and Coastwise hulls by reason of the War Shipping Administration's Insurance facilities being available to the owners. In April the market offered small vessel owners a form of coverage known as the "Limited War Risk Assumption" clause, the purpose of which was to provide protection to the owners of small vessels operating in waters where the risk of loss through enemy action seemed remote and where the necessity for full War Risk insurance was not manifest. Such vessels, however, would be subject to losses, particularly collision, which in some cases might be excluded by the present F.C. & S. clause appearing in the Marine policy if the reasoning of the Coxwold decision was adopted by the United States courts. This additional coverage was only granted by an endorsement to the Marine contract, for an additional premium. Although the rates have been reduced several times since the coverage was first offered, few assureds have availed themselves of the coverage.

In respect to the ordinary Marine risks on the Inland fleet, there was a considerable falling off in premium due to several causes, the principal one being the requisitioning of many such vessels by the Government for use in connection with the war effort and the risk naturally being assumed by the Government. This loss of premium, however, has been somewhat offset by a general increase in hull values, plus the fact that some owners used part of their increased revenues to purchase broader forms of coverage.

The loss ratio has increased, which was to be expected in view of the greater activity of vessels of this type, crowded harbor conditions, dim-out regulations, and removal of certain aids to navigation. As in the case of the Ocean fleet, there was also a shortage of manpower, particularly trained personnel. Added to this, there was a tendency on the part of some owners, in view of the pressure of business, to put off normal drydocking and overhauling, and also the increased cost of repairs. The Wartime Surcharge, of course helped somewhat in offsetting the situation.

PROTECTION AND INDEMNITY COVERAGE

In respect to the situation concerning Protection & Indemnity Coverage the immensity of the building program under government ownership coupled with the chartering by the Government of the majority of ocean-going tonnage has brought about a standardization of rates and conditions throughout the American market.

At the request of the War Shipping Administration, the four markets writing this class of business cooperating in the war efforts, put forth a standard policy with no change of any consequence from that previously issued in the London and American market, other than that the deductible averages were set at $1,000 in respect to cargo claims, $250 for life injury and illness, and $100 for all other claims.

Each of the four markets wrote for the Government an open policy under which they issue certificates for the individual risk. Such an arrangement allows each office to maintain their identity with their particular clients. and the company of issue declare to the other three a quarter interest as reinsurance.

BARGE AND SCHOONER CARGO EXCHANGE

An interesting development of the year was the formation of the Barge & Schooner Cargo Exchange, which is serving a useful purpose to shippers as well as underwriters.

Due to war requirements, practically all steamer tonnage customarily employed between the United States and Caribbean ports was withdrawn, and the needs of these countries supplied by barges, schooners, converted yachts, and all sorts of unusual craft. Many of the vessels were old and totally unsuited for the trade and in view of the monopoly they enjoyed, high rates were obtainable and a number of irresponsible operators attracted to the trade.

The market felt under a moral obligation to importers and exporters to offer facilities on many vessels which, from a purely underwriting standpoint, they would have declined. The Exchange, therefore, was formed, with the dual purpose of affording facilities to the members to offer coverage to the assured at rates which would be uniform and at the same time provide for the underwriters a means of automatic reinsurance which would spread this undesirable type of business.

It is worthy of note that the Exchange has made it possible to insure a cargo of Cuban raw sugar valued at $300,000 on an iron barge built in 1884. Shipments of some Puerto Rican rum are often covered for as much as $250,000.

In order properly to carry on the work of the Exchange a survey system had to be built up through the Board of underwriters. Surveyors, as a war emergency, are often passing tonnage which, under normal conditions, they would deem totally unsuitable. They are doing their best to improve the physical risk by practical recommendations, particularly where fire hazards are bad. Where declinations are absolutely necessary they are probably in the long run performing a valuable service to the assured, for today the merchandise is far more necessary than mere reimbursement for losses. The surveyors' declinations have in many instances been vindicated by the vessels becoming total losses. The largest single loss the Exchange has suffered so far was about $150,000.

Not all companies in the market have joined the Exchange, but generally speaking they have supported it and have been able to use the survey facilities.

CASUALTY INSURANCE AND CORPORATE SURETYSHIP

By William Leslie
General Manager, National Bureau of Casualty and Surety Underwriters

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THE ACCIDENT RECORD

Traffic fatalities continued to decrease in 1943 with indications toward the end of the year that the decrease was leveling off with no further considerable decrease likely. For the first ten months of the year fatalities were 18,110 as compared with 23,630 for the same months of 1942, a decline of 23 per cent (Nat. Safety Council data). This decline may be directly attributed to the substantial decrease in the nation's motor mileage coupled with the general observance of the 35-mile-per-hour wartime speed limit, but other factors tending to operate in the other direction are becoming increasingly important, and it would not be surprising should the traffic fatality curve start upward in the not distant future.

Ride-sharing programs have increased the nationwide average car occupancy, with the largest increase occurring in cars used in defense areas where the accident hazard is most pronounced due to traffic congestion and the greater use of the cars. The increasing age of automobiles in use and the scarcity of replacement parts and skilled repair mechanics tend to increase the number of defective cars on the highways. The increased mileage required of public passenger carrying vehicles and the continued loss of skilled operators of commercial automobiles are bound to influence adversely the accident record for public and commercial vehicles.

The available figures on industrial accidents are too incomplete to form reliable conclusions for the year 1943. The occupational fatality record for the first nine months of 1943 was slightly lower than for the same period of 1942, but the preliminary evidence seems to point to an increase in the frequency rate per million man hours for all industrial accidents.

STATE LEGISLATION

With the exception of four which do not meet in the odd-numbered years, all the state legislatures convened in regular session in 1943. Although expected to be of shorter duration than usual because of the war emergency, most of the sessions ran to their constitutional limits, and practically a normal volume of legislation affecting casualty insurance and corporate suretyship was introduced.

Of particular importance was the enactment of a new automobile financial responsibility law in Utah and the strengthening of the existing laws of Indiana, Michigan, and Oregon, making them in effect similar to the New York Financial Responsibility Law. The Ohio law was also revised.

The increased income of labor in industry gave impetus to the demand for increased benefits under the workmen's compensation laws, and a substantial number of these laws were amended to provide for such increased benefits. Noteworthy is the amendment to the California law which provides that the increase in benefits shall be for the duration only.

Of special interest in the field of corporate suretyship is the newly enacted law in Wisconsin regulating personal sureties and statutes passed in Connecticut, Georgia, Montana, Nebraska, New Mexico, and Rhode Island, permitting joint control by the principal and the surety of funds or property for which the surety's obligation is given.

FEDERAL LEGISLATION

The most recent revision of the Federal tax laws, enacted by the last Congress, included a change in the basis of taxation of mutual insurance companies. In the 78th Congress the following pending, but not yet enacted, legislation should be noted: a bill to set up a Federal Fidelity Bonding Board to bond Federal officials and employees; a bill covering war risk injuries sustained by persons within the continental United States; several bills which indirectly would have the effect of injecting the Federal Government into the field of aviation insurance; and companion bills designed to express Congressional intent with respect to the position of insurance companies under existing Federal anti-trust laws.

WORKMEN'S COMPENSATION INSURANCE

The three important developments of the year in the workmen's compensation line were the introduction of a program for grading expense allowances for all risks developing annual premiums of $1,000 or more, the adoption of a national simplified procedure for the determination of manual rates, and the introduction of rules for more properly reflecting overtime in the payrolls used for premium determination.

Under the new rating program the assured may elect in advance one of three available retrospective rating plans whereby a premium adjustment is made after termination of the policy term reflecting the experience developed under the policy. If no such election is made, a guaranteed discount, which increases as the size of the risk increases, is applicable to the premium on the risk. This discount reflects a gradation in the allowance for acquisition cost and for general administration and payroll audit expenses. The retrospective rating plans reflect the same expense gradation. Of the three optional retrospective rating plans, one provides that the final premium shall in no event exceed the standard premium on the risk; the second provides for the possibility of a surcharge above the standard premium in the event of adverse experience but establishes possible credits which are greater than those under the first or no-surcharge plan; and the third provides for the same possible surcharges as the second but establishes no specified minimum premiums and hence allows the development of greater credits in the event of favorable experience. This program has already been made effective in most of the states, and is under consideration in the few remaining jurisdictions.

The curtailment of personnel both in the carriers and in the rating organizations brought about by the war emergency has necessitated the development of a simplified rate-making procedure. Among the more important changes are the substitution of existing rates for national pure premiums as a base from which to measure the departures indicated by the classification experience, the uniform use of two years for determination of rate level and the elimination of industrial group differentials. As a step toward the settlement of a much discussed element in the rate-making procedure, the variable contingency factor based upon the underwriting results accumulated over a long period of years has been eliminated, with the understanding that this elimination is a temporary expedient and that intensive study will be devoted to the development of another basis for establishing a contingency provision. This step, however, has virtually no effect upon rate level determination at the present time, because in nearly all of the states the contingency provision currently indicated is zero.

The effect of the war on payrolls through the almost universal maintenance of work schedules involving overtime has been reflected in the adoption of rules under which the excess remuneration for overtime above the standard rates is excluded in the calculation of the premium.

As more and more of the nation's resources have been channeled into war projects, the use and the importance of the Comprehensive Rating Plan developed in 1941 for the rating of the larger projects have increased correspondingly. The problems arising in connection with the application of the Plan have demanded almost continuous attention from the non-partisan Joint Rating Committee of company representatives which serves as an advisory body. Important developments in 1943 included the extension of the contract term for rating under the Plan to include all operations within the war emergency period, the interpretation of the Plan to include government contracts let on an ex-insurance basis, whether cost-plus or lump-sum, and the interpretation of the Plan to include certain risks having contracts with more than one government agency.

MISCELLANEOUS LIABILITY INSURANCE

Developments in the miscellaneous liability field during the year continue to be noticeably influenced by factors attributable to the war. A new countrywide program was announced for the writing of employers' liability and medical payments insurance to cover employees of farmers at reduced rates and minimum premiums. It is available only in combination with Owners', Landlords', and Tenants' Bodily Injury Liability insurance. The rates provide for the usual indemnity limits of $5,000 per employee and subject to that limit, $10,000 per accident, and in addition either $250 or $500 medical payments insurance. The insurance applies to injuries sustained in the course of farm work, including transportation incident to such employment.

Important changes broadening and clarifying Owners', Landlords', and Tenants' and Product Liability Insurance for farms were introduced. A new Product Liability classification was erected to cover farm products which makes this form of insurance available to the small general purpose farmer at a reasonable premium.

Premises medical payments coverage was extended to apply to farms. Such coverage may be purchased for varying monetary limits and in broad terms provides reimbursement for medical or funeral expenses incurred by the insured on behalf of persons injured or killed by an accident occurring on his premises. The coverage has been available for some time for private apartments, private residences, and two-family dwellings in combination with Owners', Landlords', and Tenants' Bodily Injury Liability insurance for such premises.

The basic coverage for Manufacturers' and Contractors' and Owners', Landlords', and Tenants' Liability insurance covering premises was broadened to include coverage without additional charge for any premises alienated by the insured either prior to the inception of the policy or during the policy period. This eliminates the necessity of separate Grantors' Protective Liability insurance which has heretofore been available for an additional premium.

A significant development was the introduction of standard provisions for the comprehensive and the schedule personal liability policies and endorsements relating to such policies. The provisions for the policies and the endorsements were adopted as part of the national policy standardization program which has been under development since 1934.

The comprehensive personal liability policy provides complete bodily injury and property damage liability coverage for personal acts and activities of the insured, including all premises where the named insured maintains a residence, vacant land other than farm land, sports, dogs, saddle animals, private teams, and also coverage for written contracts relating to the insured premises. Coverage is included for civilian volunteer war activities such as air raid protection service, auxiliary policemen and nurses' aides. Coverage is excluded for business activities and business property which includes residences rented to others or held for such rental.

The schedule personal liability policy fulfills the insurance wants of individuals desiring coverage for specific hazards. It continues in force the method of coverage available in the past, the change being the introduction of standardized forms. The policy provides for five separate and distinct hazards designated as: (1) personal acts and activities, (2) residence premises, (3) sports, (4) golf, and (5) dogs and horses. Coverage for any one or more of these hazards may be obtained on an optional basis.

Both the comprehensive and schedule personal liability policies include standard provisions for medical payments coverage on the residence premises, employers' liability and employers' liability medical payments coverage for domestic servants. These coverages as well as property damage coverage are optional. The usual basic exclusions apply under both forms. Changes broadening the coverage and in some cases reducing the rates for personal liability, residence, farm, sports, golf, and employers' liability insurance were coordinated with the introduction of the standard provisions for the personal liability policies.

Revisions were made of the standard provisions for the Comprehensive General Liability policy and of the Comprehensive Liability policy which combines general liability and automobile liability.

As a further contribution to the war effort, companies are construing liability policies as covering many hazards due to the war. For example, they are construing general liability policies for banks as covering Ration Banking Plan liability without additional premium charge and without issuance of endorsements. This Plan for handling ration coupons on a banking basis was prepared by the Office of Price Administration with the assistance of the American Bankers' Association to facilitate purchase of goods by retailers. Liability is remote or possibly non-existent but the willingness of the companies to assume it without additional premium charge smoothed the path for introduction of the Plan.

The rules adopted for the exclusion of overtime wages in the determination of premium for workmen's compensation insurance were introduced also for Employers' Liability and Manufacturers' & Contractors' Liability insurance. Subject to the insured maintaining appropriate records, adjustment is made in the payroll used as a basis for developing premium charge.

The war has been responsible for the creation of new industries and in recognition of this fact several important classification changes were adopted for Manufacturers' and Contractors' Liability insurance. For example, classifications and rates were developed for synthetic rubber and metallic magnesium manufacturing.

AUTOMOBILE LIABILITY INSURANCE

The impact of the war on the use of automobiles was reflected in a considerable curtailment in the activities in the automobile insurance field related to changes in rates, rules, and forms of coverage. The only important rate change consisted of an average reduction of 20 per cent in the bodily injury liability rates for commercial automobiles in the two lower rated classes of risks based upon the business of the insured, and for most of the miscellaneous classifications. This reduction followed operating restrictions imposed by Federal regulatory bodies. In the field of public transport, however, it was found necessary to increase the specified car bodily injury rates for public livery automobiles, taxicabs, and public passenger carrying buses by 25 per cent. The intense use to which public motor transport services have been put since the outbreak of war, the crowding of vehicles, and inability of operators to continue the same standards of operation and maintenance made necessary an increase in the bodily injury specified car rates.

To give more liberal recognition to the restrictions imposed by the OPA on the use of private passenger automobiles, the Suspension Rule was modified so as to give credit for periods of suspension of as little as 30 days.

In order to assist the Federal authorities in their campaign to promote ride-sharing, the companies voluntarily agreed to construe their policies as covering such arrangements. Subsequently, at the request of these authorities, the companies also made available a restricted form of automobile liability policy to apply only with respect to persons participating in a ride-sharing arrangement if injured while on their way to or from work in the insured's automobile. A restricted employers' non-ownership liability coverage protecting the employer in similar circumstances was also made available.

The standard provisions for the Garage Liability Policy, the Schedule Liability Policy, and the Comprehensive Liability Policy were revised during the year.

BOILER AND MACHINERY INSURANCE

Early in the year revised manuals were brought out by two groups of carriers. These manuals differed in many important respects but each represented an effort at improvement in coverage and simplification of previous practices. The manual produced by the National Bureau of Casualty and Surety Underwriters, representing one of the groups, was designed especially for ease of application by the field forces. This was reflected by a substantial reduction in the number of pages, the use of non-technical descriptive language, and the bringing together of related information for convenient reference.

The separate development of manuals by the two groups naturally led to variations in underwriting treatment with resultant differences in premium bases. In the normal course of events and with the passage of time, these variations and differences will be reconciled in large degree. The eventual result will be the common use of the best features now appearing in one or the other of the two manuals, a result that will be recognized as decidedly in the public interest.

ACCIDENT AND HEALTH INSURANCE

There seems to be very little that can be added to the statement on Accident and Health Insurance made in 1942. The military and naval extension will be continued for another year on the same basis as heretofore. One rather interesting item has been the development of a "Victory Farm Volunteer Accident Policy," which has been developed in cooperation with the Bureau of Agricultural Economics of the U. S. Department of Agriculture, providing accident protection to boys and girls enrolled as "Victory Farm Volunteers of the United States Crop Corps." It will also be available to members of the Women's Land Army. Circulars, with applications attached, were distributed among some 3,100 county farm agents in the various states. The policy provides $250 blanket medical and hospital medical reimbursement, $500 for accidental loss of life, and $1,000 for double dismemberment.

BURGLARY, THEFT, AND ROBBERY INSURANCE

The most important event of the year in the field of burglary insurance was the introduction in April of the new Residence Burglary, Robbery, and Theft Policy. This is by far the broadest residence policy ever put on the market by the casualty companies. Formerly covering primarily within the residence, the scope of coverage was broadened to include outside coverage. Provided there is at least $1,000 insurance coverage within the residence other than on a specific basis, $1,000 of coverage is automatically provided on all personal property within the Western Hemisphere. This feature of the policy has proved very popular.

Following the wave of bank robberies in the early 1930's, a requirement was set up that bank robbery policies must contain a provision that not more than 15 per cent of the insured money may be kept on the counter with the balance in a safe or vault locked with a delayed action time lock. This emergency measure was eliminated from the manual last April. It had been one of the most unusual measures ever enforced by the burglary insurance companies and it is credited with having aided materially in the elimination of bank robberies.

The current scarcity of merchandise of all kinds has created a demand for burglary and robbery insurance in the mercantile open stock classifications. Bulky merchandise which has probably never been insured in the past is now being covered.

GLASS INSURANCE

The severe wind storms and floods in several parts of the country in 1943 resulted in an increase in glass insurance losses. Although the price of glass has been controlled effectively, normal losses increased, partly because of blackout regulations. On the whole, it has not been a profitable year for the insurance companies.

SURETY BONDS

Although the war effort continues to be the major preoccupation of surety producers and underwriters, the substantial gain in premium volume experienced in 1942 will not be repeated.

Corporate sureties' contribution to the war effort centered primarily around the preliminary program. For the most part, the construction of facilities, cantonments, and factories has been completed, and as a consequence the Government's requests for the Performance and Payment Bonds have diminished in frequency. As changing war conditions dictate the necessity of enlargement and modification of facilities at home, corporate surety bonds continue to fill the need for a credit guarantee as they did during the major construction program.

The experience of the Army on its construction undertakings continues the demonstration of the value of the labor and material payment bond. The guarantee of payment to material furnishers has expedited the flow of materials to government contracts by removing credit obstacles. Substantial economies in price are also a natural consequence.

Current conditions, as well as past experiences in Navy construction has prompted the Navy Department to abandon its former methods of contracting on a cost-plus-a-fixed-fee basis. With the exception of confidential contracts practically all Navy construction undertakings are now lump sum contracts arrived at through the process of competitive biddings or negotiations. The performance of many of these contracts is guaranteed by surety bonds, and in practically all of them payment bonds are required to secure the payment of labor and materials which go into the projects.

The extremely favorable loss ratio experienced in 1942 is now beginning to change. As was pointed out in this article a year ago, increase in surety premiums could not be considered as a commensurate gain in profit. During 1943 several substantial losses on 1942 business became evident. In all probability the immediate future will disclose many more such losses.

The redistribution of man power continues to afford an increasing market in the sale of fidelity bonds. Employers are placing increased reliance upon fidelity bonds as a means of lifting from their shoulders the worry and concern over untried employees in positions of trust and responsibility.

NET PREMIUMS WRITTEN

The following exhibit shows the net premiums, by kind or type of insurance, written by all United States casualty companies, including state funds, in the calender years 1939-42:

Kind of Insurance	Net Premiums Written in Calendar Years			
	1939	1940	1941	1942
1. Workmen's Compensation	$342,059,462	$357,497,991	$445,361,768	$590,984,782
2. Automobile Bodily Injury	297,796,771	311,621,457	357,178.119	350,267,017
3. Automobile Property Damage Liability......	89,582,387	94,562,967	107,828,484	114,338,583
4. Auto Collision...........	34,499.214	39,363,410	55,209,388	52,692,545
5. Liability Other than Auto.	97,739,918	103,754,906	109,372,228	120,903,698
6. Property Damage and Collision Other than Auto................	6,958,293	7,496,170	9,805,732	12,429,373
7. Fidelity and Surety......	92,208,372	92,381,628	102,318,490	111,564,951
8. Accident and Health.....	113,073,185	129,875,488	135,369,287	144,126,799
9. Burglary and Theft......	28,418,810	28,810,478	31,006,421	34,094,794
10. Glass.................	12,146,146	11,930,289	11,955,569	13,064,456
11. Boiler..................	8,290,937	9,429,933	10,393,522	10.741,103
12. Machinery..............	4,049,409	5,878,660	8,799,048	8,796,709
13. Credit..................	4,639,470	5,016,576	4,025,810	6,550,623
14. Live Stock..............	624,638	579,912	816,614	1,062,758
15. Sprinkler...............	602,130	656,686	728,384	845,599
16. Auto Fire, Theft, Tornado, and Other Miscellaneous Lines.......	18,555,270	21,887,344	18,736,665	17,374,792
Total............	$1,151,244,412	$1,220,743,895	$1,408,905,529	$1,589,838,582
Number of Companies...	416	409	410	408

PERIODICAL PUBLICATIONS

Annals, The
American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.

American Banker
32 Stone Street, New York City.

American Business Combined With System
4660 Ravenswood Ave., Chicago.

American Economic Review
Northwestern University, Evanston, Ill.

American Exporter
386 Fourth Ave., New York City.

American Import and Export Bulletin
10 Bridge Street, New York City.

American Insurance Digest and Insurance Monitor
605 North Michigan Ave., Chicago.

Bankers' Magazine
465 Main Street, Cambridge, Mass.

Banking
American Bankers Association, 22

East 40th Street, New York City.

Banking Law Journal
465 Main Street, Cambridge, Mass.

Barron's
40 New Street, New York City.

Bond Buyer, The
67 Pearl Street, New York City.

Business Week
330 West 42nd Street, New York City.

Commerce and Finance
95 Broad Street, New York City.

Commercial and Financial Chronicle
25 Spruce Street, New York City.

Credit World
1218 Olive Street, St. Louis, Mo.

Financial Age, The
132 Nassau Street, New York City.

Financial World
86 Trinity Place, New York City.

Fortune
9 Rockefeller Plaza, New York City.

Harvard Business Review
330 West 42nd Street, New York City.

Insurance
671 Broad Street, Newark, N. J.

Insurance Advocate
123 William Street, New York City.

Insurance Examiner
1 La Salle Street, Chicago.

Insurance Law Journal
214 North Michigan Ave., Chicago.

Journal of Accountancy, The
13 East 41st St., New York City.

Journal of American Insurance
919 North Michigan Ave., Chicago.

Journal of Business
5750 Ellis Ave., Chicago.

Journal of Commerce
420 Walnut Street, Philadelphia.

Life Association News
11 West 42nd Street, New York City.

Magazine of Wall Street, The
90 Broad Street, New York City.

Nation's Business
Chamber of Commerce of the United States, Washington, D. C.

Spectator
Chestnut and 56th St., Philadelphia.

Standard
89 Broad Street, Boston.

Trusts and Estates
50 East 42nd Street, New York City.

Weekly Underwriter
116 John Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

ECONOMICS

American Academy of Political and Social Sciences, 3457 Walnut Street, Philadelphia.

American Economic Association, Northwestern University, Evanston, Ill.

American Fair Trade Council, Inc., 11 West 42nd St., New York City.

American Home Economics Assn., 620 Mills Bldg., Washington, D. C.

American Institute of Accountants, 13 E. 41st St., New York City.

American Institute of Weights and Measures, 33 Rector St., New York City.

American Petroleum Institute, 50 W. 50th St., New York City.

American Retailers', Inc., 128 W. 31st St., New York City.

American Society of Certified Public Accountants, National Press Bldg., Washington, D. C.

American Statistical Assn., American University, Massachusetts and Nebraska Aves., N.W., Washington, D. C.

Better Business Bureau, Nat'l., 405 Lexington Ave., New York City.

Chamber of Commerce of the United States of America, 1615 H St., N.W., Washington, D. C.

Co-operative League of U. S. A., 167 W. 12th St., New York City.

French Chamber of Commerce of the U. S., 4 E. 52nd St., New York City.

General Society of Mechanics & Tradesmen of New York City, 18 W. 44th St., New York City.

Home Market Club, Inc., 38 Chauncy St., Boston, Mass.

Institute of Economics, 722 Jackson Pl., Washington, D. C.

International Accountants' Society, 3411 S. Michigan Ave., Chicago.

Italian Chamber of Commerce in New York, 99 Hudson St., New York City.

League for Industrial Rights, 40 Wall St., New York City.

Mellon Institute of Industrial Research, 4400 Fifth Ave., Pittsburgh, Pa.

National Assn. of Cost Accountants, 385 Madison Ave., New York City.

National Assn. of Credit Men, 1 Park Ave., New York City.

National Assn. of Real Estate Boards, 22 W. Monroe St., Chicago, Ill.

National Bureau of Economic Research, Inc., 1819 Broadway, New York City.

National Consumers League, 114 E. 32nd St., New York City.

National Economic League, 6 Beacon St., Boston, Mass.

National Economy League, 280 Madison Ave., New York City.

National Foreign Trade Council, Inc., 26 Beaver St., New York City.

National Research Council, 2101 Constitution Ave., Washington, D. C.

National Wholesale Grocers' Assn. of the U. S., 60 Hudson St., New York City.

New York Stock Exchange, 11 Wall St., New York City.

Order of United Commercial Travelers of America, 632 N. Park St., Columbus, O.

BANKING AND CURRENCY

American Bankers Assn., 22 E. 40th St., New York City.

American Institute of Banking, 22 E. 40th St., New York City.

Investment Bankers Assn. of America, 531 First National Bank Bldg., 33 S. Clark St., Chicago, Ill.

National Assn. of Mutual Savings Banks, 60 E. 42nd St., New York City.

National Assn. of Superintendents of State Banks, Nashville, Tenn.

New York Clearing House Assn., 77 Cedar St., New York City.

United States Building and Loan League, 333 N. Michigan Ave., Chicago, Ill.

INSURANCE

Actuarial Society of America, 393 Seventh Ave., New York City.

American Institute of Actuaries, 135 S. La Salle St., Chicago, Ill.

American Institute of Marine Underwriters, 99 John St., New York City.

American Management Association, 330 West 42nd St., New York.

American Marine Insurance Syndicates, 99 John St., New York City.

American Mutual Alliance, 919 North Michigan Ave., Chicago.

Association of Casualty & Security Executives, 60 John St., New York City.

Association of Life Insurance Presidents, 165 Broadway, New York City.

Casualty Actuarial Society, 90 John St., New York City.

Insurance Executives Association, 116 John St., New York.

Insurance Institute of America, Inc., 80 John St., New York.

National Association of Insurance Agents, 80 Maiden Lane, New York.

National Association of Insurance Commissioners, Office of Secretary, State Insurance Department, Oklahoma City, Okla.

National Assn. of Life Underwriters, 11 W. 42nd St., New York City.

National Board of Fire Underwriters, 85 John St., New York City.

National Bureau of Casualty & Surety Underwriters, 60 John St., New York City.

National Council on Compensation Insurance, 45 East 17th St., New York City.

National Fire Protection Assn., 60 Batterymarch, Boston, Mass.

National Safety Council, Inc., 20 North Wacker Drive, Chicago.

Surety Assn. of America, 60 John St., New York City.

DIVISION XI

AGRICULTURE AND ALLIED INDUSTRIES

CONDITIONS IN AGRICULTURE

By Arthur P. Chew
United States Department of Agriculture

NEW HIGH LEVEL IN FOOD PRODUCTION

Under conditions less favorable than those of the previous year the farmers of the United States reached a new high level in food production in 1943. Total food output (food crops plus livestock) was nearly one-third greater than the average for the five pre-war years 1935-39. It represented an absolute increase for the war years of nearly thrice the increase that took place in the corresponding period in the First World War. As 1932 will long be remembered as the year of big crops, so 1943 will go into the record as a year of phenomenal livestock production. Crops suffered from destructive spring frosts in the South, extensive floods in the Central States, and severe summer droughts in a large south central and southwestern area and in a smaller central Atlantic area, but the livestock industries had exceptionally favoring circumstances—high prices, ranges well recovered from the drought years, heavy populations of animals and poultry, and abundant feed supplies. As a result, the production of livestock and poultry was about 12 per cent greater than in 1942, and 27 per cent greater than in any previous year.

In the early months of the year the prospect seemed doubtful, and many prophesied reverses on the food front. Among the gloomier prognostications were statements that "near famine" impended, with stringency probable for the armed forces and for our lend-lease operations, and great hardship certain for United States civilians. Certainly the weather was not auspicious. Floods and wet weather in May kept perhaps 1,000,000 acres out of cultivation, and damaged planted crops widely. Farmers were having difficulty in getting labor, machinery, and production-supplies. As the season advanced, however, growing conditions improved; the weather for the country as a whole, and for the entire growing season, was close to the long-time average. The main crops escaped serious damage. Warm weather and timely summer rains did wonders for the Corn Belt, while dry weather in the eastern Cotton Belt did good rather than harm to cotton. Moreover, farmers obtained more labor and machinery than they had expected, because new legislation deferred agricultural workers from the draft and facilitated worker migration and immigration, while special WPB and WFA measures increased the supply and improved the distribution of farm machinery. Toward the end of the year the cries of alarm gave place to general rejoicing over the marvellous farm showing.

CROP YIELDS

Aggregate crop yields per acre, though about 9 per cent below those of 1942, were greater than those of any other year. It had been feared that the planted acreage would decline; yet it increased to 364,000,000 acres, 2.6

per cent or 9,259,000 acres over 1942. Crop production, however, fell about 7 per cent below the previous year's tremendous harvest. Vegetable production suffered badly from the late spring frosts, and fruit production east of the Rockies declined rather generally. The decline from 1942 in the crop yields reflected the change from extremely favorable to near-average weather, while the increase over earlier years showed the continued influence of improved farm technique. Benefit resulted especially from the use of certified seed, better varieties, improved cultural practices, fertilizers, insect and disease controls, and better equipment. The recent upward trend in yields from factors other than the weather has averaged more than 1 per cent a year.

Well adjusted in the main to the current requirements, the year's production was deficient in a few lines, especially fruits and vegetables. Farmers harvested record quantities of peanuts, flaxseed, peas, beans, potatoes, and rice, and a near-record crop of soybeans. Tonnages of hay and feed grain harvested also were near-records. Wheat, cotton, and tobacco, of which crops there were considerable supplies on hand, were produced in about the usual volume. Good crops of oranges and grape fruit helped to offset the decreased production of deciduous fruits. Victory gardens, planted in country and town, numbered more than 21,000,000 or 3,000,000 above the officially suggested goal, and produced an estimated 8,000,000 tons of food, much of which the gardeners canned or otherwise preserved. About 7,500,000 farm and rural families produced and preserved the major part of their winter supply of vegetables. Late frosts and labor shortages reduced the production of vegetables grown commercially for the fresh market, and droughts prevented full achievement of the goals for canning and processing vegetables. Total feed grain production was nearly 115,000,000 tons, 7.5 per cent below the production in 1942, but above the production in any earlier years except 1920.

LIVESTOCK PRODUCTION AND DAIRY PRODUCTS

Farmers saved 74,050,000 spring pigs or 22 per cent above the 1942 number, and 37 per cent above the number in any previous year. They saved about 21 per cent more fall pigs than in 1942, and the number of hogs now on farms is about 88,000,000. This number will overtax the feed supply. Production of cattle, sheep, lambs, and poultry in 1943 was in the neighborhood of 50,000,000,000 pounds live weight, or nearly one-third greater than the production in any previous year except 1942, and well above the 1942 total. Milk production, though slightly below the record output of 1942, was about 3 per cent greater than in any previous season, and an increased proportion reached the market as whole milk. Output of eggs in the first eight months of the year was 13 per cent above 1942, and 43 per cent above the average for the corresponding months in the previous 10 years. On a meat equivalent basis the production of meat, milk, cream, and eggs exceeded the production of any year previous to 1941 by about 25 per cent. In 1944, however, livestock and poultry numbers will have to be reduced in line with the now somewhat depleted feed supply. The peak of milk production may be past for the present, though the number of milk cows is still increasing.

FOOD SUPPLY AND WAR REQUIREMENTS

Supply, however, is relative to demand, and the demand in 1943 was practically infinite, certainly beyond the possibility of meeting it. Much more food than was produced could have been put to good use in military, civilian, and lend-lease channels. Tremendous though the output was, it could not keep pace with all requirements not to speak of all desires, since food production had to be kept in balance with the production of ships, tanks, planes, and guns. Absolute abundance on the food front would have meant scarcity in nonfood war materials, and would have implied not good but bad war planning. Emphasizing the need to produce and conserve as much food as possible, the Government reminded the country at the same time that there was not food enough for all demands; that the civilian supply though sufficient for fitness and health would be short in a number of favorite items; that the strain on the food supply would increase with progress toward victory; and that the home-front job was to "produce, conserve, share, and play square."

In the allocation of the food supply, in which numerous Federal agencies participated, the Government divided the requirements into seven main categories: military, civilian, lend-lease, European relief, friendly nations, Red Cross, and domestic relief. It estimated the requirements by approximate percentages as follows for the three-year period 1943-45—military, 12; U.S. civilian, 74; lend-lease and relief, 12; friendly nations and other relatively normal calls, two. Actual distribution of the supply, it was pointed out, would undoubtedly vary to some extent from these proportions, in line with military developments and political decisions. The pattern adopted seemed likely to hold in the main for the period mentioned. Corresponding estimates of supply, which should not be confused with forecasts, presupposed normal crop yields, along with some shifting of crops toward greater emphasis on the more essential items. On a quantity basis the expected total requirements ran above the expected supplies, and the actual allocations among the claimants included considerable give and take on individual foods and substitutions of some foods for others. Broadly, the allocations gave first priority to the Armed Forces, second to domestic civilians, and third to our Allies.

Military and lend-lease requirements together accounted for about one-fourth of the estimated total supply, but took much larger percentages of some foods. They ran high for meats, eggs, dry beans, lard, and other fats and oils. In civilian food consumption the chief expected curtailments were in meats, manufactured dairy products, fish, deciduous fruits, and fresh vegetables. In 1943, nevertheless, food allocations to civilians on a per capita basis were equal on a per capita basis to the average for 1935-39, and in the aggregate were about 5 per cent greater. Gross evidences of malnutrition, such as scurvy, pellagra, and beriberi, were becoming harder to find, though various studies and also the observations of physicians and the records of hospitals revealed many sub-clinical evidences of malnutrition. No country had a better diet on the average, however, and most other countries were far behind us. Military and lend-lease requirements left us in 1943 with a civilian food supply that compared favorably with the average for 1935-39, and on a per capita basis was even better in proteins, minerals, and vitamins.

LEND-LEASE SHIPMENTS

In 1941 the lend-lease food shipment took about 2 per cent of our production and in 1942 about 6 per cent. In 1943 it absorbed about 10 per cent. Previously Great Britain had been the largest recipient; in 1943 the shipments to Russia increased tremendously, and as the year drew to a close appeared likely to exceed those to the British. In the first five months of 1943, when Germany still held the Ukraine, the USSR received one-third of our lend-lease food shipment. The need for these large shipments of food to Russia arose not only from Russia's temporary loss of food-producing territory, but from that country's tremendous concentration on the production of munitions and from its extremely high induction of manpower into the army. Millions in Russia faced severe privation if not actual starvation.

COMMODITY PRICE FACTORS

Controversy over price policy was incessant throughout the year. Action through government agencies followed the President's "hold the line" order of April 8, which directed the Price

Administrator and the War Food Administrator to extend the ceiling principle to all commodities that affect the cost of living. It instructed these officials to authorize no further increases in prices, except to the minimum required by law, and contained parallel instructions for the War Labor Board and the War Manpower Commission. In line with these instructions government agencies launched a rollback program which reduced the retail prices of butter and the chief cuts of pork, beef, and lamb; announced control regulations for beef cattle and winter fresh vegetables; and worked out a subsidy program for fluid milk and butterfat. These procedures along with previous regulations brought practically all important food products under price control, in many cases at the farm level as well as at the retail level, but the subsidy feature provoked violent disagreement. Opponents of it maintained that prices at the retail level should be allowed to rise sufficiently to cover the farm production costs; whereas the administration contended that such a policy would touch off inflationary wage demands and lead to an inflationary spiral.

Basically, the difficulty arose from a certain want of correspondence between the directives of the War Food Administration and those of the Office of Price Administration. In line with its instructions WFA had supported farm prices through loans, purchases, and other methods; while the OPA had endeavored to stabilize the cost of living as nearly as possible at the level that existed on Sept. 15, 1942. Inevitably discrepancies developed between farm and retail prices, with farm prices pushed in some instances above the ceilings. Processors, distributors, and other intermediaries could obviously not cope unaided with this situation. Necessarily, the choice lay between a lowering of the farm-price level, a raising of the ceiling averages, or the use of subsidies to bridge the gap. It was not purely an economic question, since the various interests involved naturally appraised it differently and exerted rival pressures. As the greatest of the consumers and the buyer of nearly 50 per cent of the nation's output, the Government championed subsidies on the double ground that they would be cheaper than general price-advances and efficacious also against the inflation danger.

FARM INCOME AND EXPENSES

Gross farm income increased much more than farm expenses during the year, and seemed likely to be about $22,675,000,000, as compared with $18,628,000,000 in 1942. This figure represents the cash farm income plus the value of production for home consumption on the farm and also the value of dwellings. Production expenses were about $10,200,000,000 as compared with $9,148,000,000 in 1942. Estimated net income of farm operators for 1943 was $12,475,000,000, almost one-third larger than the total ($9,480,000,000) for 1942. The high record previous to the present war years was $9,250,000,000 in 1919. Moreover, the income of persons on farms improved in relation to that of persons not on farms. At the outbreak of the war it was below the 1910-14 parity; whereas now it is considerably above that level. Officials in the War Food Administration pointed out, however, that the returns to farmers in 1943 still represented only about 10 per cent of the national income, and that numerous farm families still did not earn enough to give them a decent standard of living.

UNITED NATIONS FOOD CONFERENCE

Outstanding in importance among the agricultural happenings of the year was the United Nations conference on food and agriculture. This meeting, held in May at Hot Springs, Va., brought together 168 delegates and their assistants, the representatives of 34 nations and 12 associate nations. After discussions which lasted three weeks, it adopted a document called the Final Act, which included a declaration of principles, 33 recommendations and resolutions, and reports on production, consumption, and nutrition. The declaration said that the associated nations would need to concert their efforts to win and maintain freedom from fear and freedom from want, and urged worldwide expansion of both agriculture and industry to provide the necessary purchasing power.

Especially emphasized were two recommendations: (1) that the governments represented should formally recognize their obligations, within their own countries and in collaboration, to raise the levels of nutrition and the standards of living of their peoples; and (2) that they should establish a permanent organization for that purpose. The resolutions called for the creation of an interim commission to formulate and recommend a specific plan for the proposed permanent international organization. Implicit in the proceedings was a recognition of their connection with the general strategy in the United States, both in post-war objectives and in the development of war aims. Reports to the conference said the modern farm and industrial technology, now confined mainly to the temperate zones, can be profitably applied almost everywhere, through a combination of research, education, and social engineering. They pointed out that excessive crowding in agriculture actually limits farm production, since it makes farms too small and prevents the development of complementary industries.

PLANNING THE FOOD PROGRAM

Plans for our food program in 1944 start from the basis laid in 1943, which sets a mark that will be hard to beat. It will take tremendous effort and teamwork to go above the 1943 level, which, as already mentioned, gives us a food output some 25 per cent greater than the average for the pre-war years 1935-39. Nevertheless, WFA looks toward still another record showing. With favorable weather, the plans it has developed should generally succeed, since they rest on careful estimates of production capacity crop by crop. They do not promise to obviate tightness in all sectors of our food supply. Under present conditions production much greater would not do that, but success in the program will strengthen our battle-lines everywhere, and continue to give civilians a food supply comparing favorably with that of pre-war years. It presupposes attention to three essentials: (1) unremitting production for military, civilian, lend-lease, and other needs; (2) the development of support prices and loans to obtain increased production without increases in the cost of living; and (3) proper distribution of supplies among the claimants.

CROP GOALS

Goals call for the largest crop acreage in our history, along with maintained high production of meats, dairy products, and eggs. The War Food Administration is asking farmers to plant about 380,000,000 acres for harvest in 1944. This compares with 364,000,000 acres planted in 1942. Largest recommended increases are in the crops that furnish food for direct human consumption, such as wheat, soybeans, peanuts, dry beans and peas, and fresh and processed vegetables. In the livestock industries the problem is to balance the output with the available feed supplies, our reserves of which have been largely used up. It was feasible in 1943 for livestock raisers to feed their livestock heavily, so as to maximize production of meat, dairy, and poultry products. In 1944 farmers will have to resort to more normal methods of feeding, since the supply of feed available per animal unit is smaller.

LIVESTOCK GOALS

This should not cause any decrease in the amount of meats available during the current feeding year. As announced in September, the support price for hogs for the period Oct. 1, 1944, to March 31, 1935, will be somewhat lower than it is now. The purpose of the reduction is to encourage farmers to market more livestock currently, rather than to hold them over for heavier feeding. Other steps by WFA will facilitate proper allocation of feed supplies among the various kinds of livestock, and WFA will urge the military services to stockpile meat during the heavy slaughter-run. The 1944 goals for livestock slaughter are 33,700,000 cattle and calves, 22,000,000 sheep and lambs, and 104,000,000 hogs. Output of meat from this suggested slaughter would be about 26,200,000,000 pounds, or about 5,000,000,000 pounds above the indicated production for 1943.

In milk the suggested total production for 1944 is 122,000,000,000 pounds, compared with an indicated production of 118,000,000,000 pounds in 1943. This production, WFA believes, can be obtained from the number of milk cows now on farms, if dairymen have assistance in getting feed supplies and also some increase in returns for fluid milk during the fall and winter seasons. Steps have been taken to assist dairymen in feed deficit areas to obtain supplies of hay at a reasonable price and the Government is also bringing grain from Canada into the United States. Nevertheless, the dairy goal, which represents an increase over 1943 of about 3 per cent in production and of nearly 10 per cent in whole milk deliveries, will be one of the hardest goals to reach. It is also one of the most important.

VEGETABLE GOALS

Suggested increases in the production of both fresh and processed vegetables though very large, will probably not be adequate for civilian as well as military needs. The requirements indicate a need for 18 per cent increase over 1942 in the commercial vegetable crop for the fresh market, and for a 40 per cent increase over 1942 in vegetables for processing. Analyses of production capacity indicate that the acreage of commercial truck crops for the fresh market can be increased 7 per cent over 1942 and the acreage for processing 8 per cent. The suggested goal for the commercial truck crop acreage for the fresh market is 10 per cent over 1943, and for processing 6 per cent higher. This is about in line with the indicated production capacity. Considerable increases will probably take place also in market gardens and victory gardens.

OTHER PRODUCTION GOALS

Other major recommendations include the production of 5,000,000,000 dozen eggs; some decrease in the production of poultry meat; an increase in the acreage of tobacco; adequate seed production of legumes and grasses; a slight increase above 1942 in cotton acreage, along with some shifts among and within states to increase the production of the higher grades and the medium and longer staples; sugar cane production, for sugar and seed, on 335,000 acres and sugar beet planting on 900,000 acres; an increase of about 5 per cent over 1943 in the corn acreage, with no increase in the acreage of the other feed grains; wheat planting on 68,000,000 acres, and further increases in soybeans and peanuts.

PRICE ADJUSTMENTS

It will be necessary, in order to obtain the production desired, to make certain adjustments in the structure of support prices to farmers. The general level of farm prices is fairly adequate, but added risks and costs must be covered in some farm commodities. The War Food Administration has recommended that the funds available to the Commodity Credit Corporation should be increased, so that the powers of the corporation can be used more fully in stimulating needed farm production, and simultaneously in "holding the line" and preventing increases in consumer prices. Attainment of the 1944 goals will also require an increase over 1943, estimated at about 3 per cent, in the number of farm workers, along with additional farm machinery and equipment.

FOOD ALLOCATIONS

As the counterpart of the production program, WFA is now making allocations of all our important foods on a quarterly basis. Each claimant agency provides a breakdown of its requirements, and also considers possible adjustments and substitutions. It is, of course, impossible to achieve a perfect balance in each line separately between supplies and requirements, but the prevailing cooperative system of adjustments and substitutions accomplishes a much better total balance than would be possible otherwise. The proof, already mentioned, is that necessary civilian requirements have been met up to the present without serious conflict with non-civilian needs. With average weather in 1944, the civilian food supply will again compare favorably with pre-war supplies. After providing for military and lend-lease needs, there will still be a sufficient amount of good wholesome food, though civilians may not be able to buy all they want of every kind.

POST-WAR CONSIDERATIONS

As victory draws nearer the importance increases of estimating what adjustments will be necessary to agriculture when the fighting stops. Accordingly, the Department of Agriculture has tried to foresee what pattern our agriculture will have then, and what food requirements will exist in the early post-war years. It has also endeavored to gauge the probable post-war condition of our agricultural plant, in crop and pasture land, range land, forest resources, farm buildings and machinery, technical facilities, farm finance, and other main features. The findings, though highly tentative, provide part of the necessary basis for post-war planning.

Broadly, the pattern our agriculture will have reached in 1944 shows what it will be like when the war ends. This is because in 1944 we shall be close to the top limit in our agricultural production, and because the composition of the output will be approximately fixed for the duration. We can still bring some additional land into cultivation, and can still do some shifting into more productive crops and livestock products, but we are approaching the point at which the opportunity for such changes will be small. It seems probable that the level of total production to be expected in 1944, with normal yields, will be close to the maximum under wartime conditions, and that only minor changes will develop for the remainder of the war period.

Food requirements, however, will continue to rise, and will be higher at the close of the war than they are now. Tentative estimates for 1944 and 1945 indicate large increases in the requirements over 1943 supplies. Moreover, these estimates assume that certain marked changes will be brought about in civilian food habits and also that certain shipping limitations will persist. Should the anticipated change in civilian eating habits not take place, and should the shipping situation improve greatly, the food requirement estimates will have to be raised.

As a matter of fact, the Department of Agriculture believes it would be more accurate to speak, not of food requirements or of food needs, but of estimates of supplies that will be taken if they can be produced. Endeavoring to meet them will involve modification of the cropping pattern in the direction of crops that can be used direct for human consumption. Needs capable of being supplied will be greater after than during the war, since the blockades will be suspended.

POST-WAR CROP OUTLOOK

On the assumption that the foreshadowed 1944 crop picture will closely foreshadow that of the war's end, it may be useful briefly to summarize it. In vegetables for the fresh market and for processing, the acreage may be 10 to 20 per cent over 1942, along with very large increases in potatoes and sweet potatoes. Further expansion is likely in dry beans and peas, in soybeans, peanuts, and flaxseed. Sugar cane acreage may not change much but the sugar beet acreage probably will be considerably higher than in 1943. Wheat acreage may be from 65,000,000 to 70,000,000 acres or about 25 per cent above the acreage seeded in 1943. Corn acreage likely will be higher than in 1943 but the acreage of other feed grains may decline somewhat below the 1943 level, to make room for expansion in food crops. The cotton acreage will be dependent to some extent on the attention given in the cotton states to food crops. For tobacco the outlook for change in the acreage is somewhat uncertain but it appears now that it will go somewhat higher.

LIVESTOCK PROSPECTS

In livestock numbers and production the prospect is clear. It is simply not possible, under any feed production program that might be adopted, to maintain the present livestock population. Undoubtedly the greatest reduction will take place in hogs, since hogs depend more than other livestock on grain, and can be contracted more readily than can roughage-consuming livestock. Fattening of beef cattle and sheep also probably will be curtailed sharply. Milk production and egg production may fall below the level desired unless vigorous measures assure dairymen and poultrymen a more adequate feed grain supply. Some change from feed to food crops, which is necessary to obtain the maximum production of nutrients, means some change in all categories of livestock production.

LAND CONSERVATION

As to the probable condition of our land when we get through with the war effort, the Department believes much will depend on the extent to which practical erosion-prevention practices can be combined with increased production of soil-depleting crops. So far the rate of soil depletion has apparently not been very much accelerated, but we have been in the war only two years, during which period the extra drain upon our land resources may not fully have shown up. Current production plans, such as the program for an expanded acreage of wheat and of inter-tilled crops like soybeans, peanuts, dry beans and peas, and white and sweet potatoes, involve difficult soil-maintenance. Less favorable weather conditions may give rise to some serious problems on farm pasture lands, especially where overgrazing exists.

Strenuous efforts have gone into conservation work during the past ten years, but at least 60 per cent of our crop land area is still in need of conservation practices. Main requirements include crop rotations or improved crop rotations; contour cultivation; terracing; improvement of impaired drainage systems and development of new systems; reorganization of farm irrigation; installation of water-spreading systems on certain range and pasture lands; and utilization of crop residues and fertilizers. The war effort produces conditions that may lead to serious productivity losses if farm and ranch operators fail to maintain and improve their soil and water conservation systems. Advantages gained in years of cooperative work could be lost.

FOREST RESOURCES

Our forest resources are suffering from the impact of the war. On private forest land the extent and severity of destructive cutting have increased, conspicuously in second growth forests east of the Plains. Further heavy inroads are being made into already depleted stands of hardwoods in Ohio, Indiana, and Illinois. The war has emphasized the indispensability of forests in national defense, and accentuated the basic trend of forest depletion. Billions of feet of lumber have been required to house soldiers and industrial workers, and to provide wood and wood derivatives for ships, wharves, airplanes, gunstocks, explosives, and other war supplies. Much forest land is not restocking. Great need exists for a stoppage of destructive cutting, for increased tree planting, for timber stand improvement, and for insect, disease- and forest-fire control.

FARM BUILDINGS AND EQUIPMENT

By the end of 1944 farm buildings and fences will have deteriorated somewhat. Less than half the usual quantity of repair materials is available, and the end of the war will see a considerable accumulated need for improvements. In machinery the position will be more favorable in drawbar power than in transport vehicles. The upward trend in tractor numbers will continue; but tractors and other farm machinery will remain in use for longer than normal periods, and the replacement demand will probably be large when abundant new supplies become available. On the other hand, the number of motor vehicles on farms in 1944 may be 10 per cent below the 1942 figure. They will be below par in general efficiency, and tire replacements will undoubtedly still be difficult. In general, during the war period, the allocation of new farm machinery has been on the basis of present numbers, and the regions whose equipment was relatively old have not been able to get sufficient replacements.

FARM TECHNOLOGICAL ADVANCES

In farm technology the war is having a stimulating influence. Good prices and incomes give farmers more incentive and also more power to adopt improved methods. Though shortages of materials block the development along some lines, shortages of labor often encourage it. Some wartime technical progress, however, may have only limited peacetime application, notably in connection with products which may then be more easily and cheaply obtainable abroad.

Technological advances have been noteworthy in the processing, preservation, and packaging of foods; in the development of higher yielding strains and varieties of crops; in the improvement of methods for controlling agricultural pests and diseases; in farm machinery; and in livestock breeding and feeding. New methods of dehydrating vegetables, eggs, dairy products, and meats turn out many products which are highly stable, readily soluble, and usable in most ways in which the fresh products may be used. Greater utilization of non-fat milk solids is taking place. New processes in quick freezing hold most of the original fresh quality in frozen foods, and the depression-born frozen-locker industry now handles some billions of pounds of food annually for 1,500,000 families.

New machines for mechanical blocking and machine harvesting greatly reduce the labor required in producing sugar beets. Animal research is extending the importance of progeny-testing, and discovering the specific uses of vitamins, minerals, forage, pasture, hay, and silage. New findings in fertilizer practice are increasing crop production.

DISEASE AND PEST CONTROL

Varieties of corn have been developed which are highly resistant to the European corn borer and to destructive diseases. Rust and smut resistant varieties of oats are greatly outyielding old varieties. Several new improved varieties of potatoes have been developed. Progress has been made with soybeans, vegetables, tobacco, cotton. In insect control the use of aerosols has given results of military value against disease-carrying mosquitoes.

MARKETING

Some redirection of the marketing system will be in order when the war is over. Distributors will face the task of handling in domestic trade a considerable part of the supplies that now go into military and lend-lease channels. They will have to relocate certain marketing facilities to allow for changes in crop-areas and in the relative importance of different crops. Great strides may be made in the development of facilities for preserving and distributing frozen foods. Postwar changes in the volume and direction of world trade will pose problems for processors and distributors, in the solution of which research may be required. For example, certain branches of our farm production, such as the oil seed crops, may continue at a higher level than that of the pre-war years, and will consequently diminish the need for imports. If this happens, permanent processing facilities will be necessary to replace the wartime makeshifts. The necessary determinations will obviously have to be economic as well as technical.

Other main determinants of the post-war farm situation, such as the probable level of farm incomes, the extent to which inflation will have crept into the farm land-value structure, the conditions that will determine the character and volume of our export trade, and the degree to which the country unites in programs for the maintenance of employment, include numerous uncertainties. It can be taken for granted that the government will continue to support farm prices. Legislation already provides for that; but predictions as to what the post-war demand for farm products will be are obviously hazardous. In general, the Department believes the immediate post-war years will be a period of very large demand, both domestic and foreign, for the products of United States farms.

INCOME TRENDS

Forecasting farm income with any precision for the duration is impracticable, since no one knows how long the war will last. The Department expects that the current upward trend will continue into 1944. Farm production, however, may show only a moderate overall increase, and prices will be increasingly subject to ceilings. Moreover, farm prices in 1943 have averaged almost 80 per cent above the average for the five years 1935-39, and must consequently be expected to rise less hereafter. With lower rates of increase in view for both production and prices, the farm income must show a corresponding trend, though some further additions to farmers' income may result from the operation of purchase-and-sale programs or their equivalent. Average net money incomes of farm families have increased rapidly since the outbreak of the war, and the increase will probably continue into 1944, more strongly in the lower and medium income groups than in the top groups. Though farm income may not be much higher when the war stops than it is now, it will be high, and will enable farmers to set aside reserves, and to finance much of their operating expense without borrowing.

CONDITIONS OF FARM TENURE

Farms for the country as a whole may average slightly larger and the conditions of farm tenure may be somewhat better at the end of 1944 than they were when the war began. Many factors are contributing to produce these changes. Prominent among them are: the drain of farm manpower from the land; the improved financial status of landlords and farm operators, both tenants and owners; the promise of a continuing favorable market for farm products; and the current lag in land values in relation to farm prices and farm incomes. Farmers with adequate machinery and other equipment are trying in many states to enlarge their operating units. In parts of the South, however, the trend seems to be away from wage-labor and toward share-cropping, with a consequent decrease in these areas in the average size of farms. The economic condition of both wage-hands and tenants has improved. Farm houses will probably not be in a better condition generally at the end of 1944 than they were at the time of the 1940 census, because the materials and labor necessary for making improvements are scarce. Better rural housing will be an acute need after the war.

RURAL HEALTH SERVICES

Shortages in rural health services will be serious when the war comes to an end. With approximately the same burden of disease and death to bear, the rural population has fewer health services and facilities than the urban. As a result, the natural healthfulness of country life suffers heavy detraction, largely from diseases that science can often prevent, such as infant and maternal mortality, diphtheria, typhoid fever, malaria, pneumonia, and pellagra. Farm people generally can not get adequate medical attention for minor ailments. Badly infected teeth, poor vision, diseased tonsils, hernias, female pelvis disrepairs, and varicose veins take heavy toll of rural health. Rural sanitation is backward. All these drawbacks tend to increase under wartime conditions, in spite of the current improvement in farm incomes, and will require broad programs for rural health and medical care planning.

CONCLUSIONS

It seems clear, in short, that agriculture when the war ends will still have many of the problems that troubled it before the war started. Probably its physical resources will have undergone some further deterioration, and will not be on a sustained yield basis in crop, range, or forest areas. To the farm group as a whole, the war will have brought economic gains; and many farmers, through wise management of their incomes, will have retired their debts and accumulated savings. Others, however, may find their gains only temporary; they may find themselves over-extended, or involved in unsound speculation. Formidable economic problems will exist for agriculture even if the wartime gains overbalance the losses considerably for the farm group as a whole. It is not to be expected that the familiar disparity between urban and rural living conditions will be absent, or that problems of tenancy and tenure relations generally will give no further trouble. Problems of marketing facilities, of crop and price adjustment, of rural health and medical care, and of rural housing and sanitation may temporarily be more acute than ever. Prudence requires broad efforts to anticipate at least the worst of these problems, and to provide ahead for coping with them.

COTTON AND GRAIN CROPS

By Joseph A. Becker
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COTTON PRODUCTION

Production of cotton in 1943 of 11,478,000 bales of 500 pounds gross weight was smaller than the 1942 crop by 1,300,000 bales. The acreage planted was 5 per cent below 1942 and yield per acre was 7 per cent below. The crop was 10 per cent below 1942 and 8 per cent below the average of recent years—1932-41.

Cotton prices at planting time continued on a relatively favorable basis in comparison with recent years. Ordinarily, an increase in acreage planted might have been expected. The decrease in acreage planted which did occur was probably attributable to fears of labor scarcity and shortages of machinery and fertilizer. It was undoubtedly affected also by the war crop goals program of the Department of Agriculture. Farmers were led by a patriotic urge to displace cotton with some of the war crops. Pecuniary advantages also were offered in the form of price supports for the war crops and penalties on A.A.A. benefit payments for individual farmers who failed to plant as much as 90 per cent of their war crop goals. The acreage of cotton planted (in cultivation July 1, 1943) was below 1942 in every state except Mississippi. In that state, the increase was less than 2 per cent. The acreage of American Egyptian cotton in Arizona, New Mexico, and Texas was reduced considerably, following a very material increase in the preceding year.

The 1943 crop started unusually well, with better than average stands and under weather conditions sufficiently dry and hot to reduce the threat from boll weevils. The dry, hot weather continued throughout August and early September, however, and eventually resulted in considerable damage to the crop, especially in Tennessee, Arkansas, Oklahoma, and Texas. There was some loss of yield in the northern fringe of the Cotton Belt, due to killing frosts in mid-October. The crop generally matured earlier than usual and the amount still unpicked on Dec. 1 was below average, except in the western irrigated states. Texas ranked first in the production of cotton and was followed in order by Mississippi, Arkansas, Alabama, and Georgia. Production was below average in every state except Tennessee, Mississippi, and Louisiana. The Louisiana crop, although grown just outside the area of intense drought, was 19 per cent above average. In Oklahoma, on the other hand, the crop was 44 per cent below average.

COTTON YIELDS

The 1943 yield per acre of 252 pounds is 20 pounds less than the record yield of 1942, but was 35 pounds above average, and has been exceeded in only two other years. Yields during recent years have been on a comparatively high level, partly because of relatively low boll weevil damage and partly because of the shift to better lands, increased applications of fertilizer per acre, and more intensive care. This shift is emphasized by the fact that the planted acreage in 1943 was less than half the record acreage of 1925.

COTTON ACREAGE

The acreage of cotton in cultivation on July 1, 1943 was 22,151.000 acres, 5 per cent less than in 1942 and 25 per cent below average. Plantings again were below the A.A.A. Conservation Program allotments, though in some instances an acreage in excess of the allotments was planted. Because of liberalization in the rulings of the A.A.A., the acreage destroyed for compliance purposes in 1943 was negligible. Acreage abandonment was only 1.3 per cent of the planted acreage, and 21,874,000 acres were harvested compared with 22,602,000 acres in 1942 and the 1932-41 average of 27,718,000 acres. Included in the state totals shown in the accompanying table are 68,000 bales of American Egyptian cotton produced on 148,000 acres and 300 bales of Sea Island cotton produced on 2,800 acres. The 1942 production of American Egyptian cotton was 75,000 bales on 193,000 acres and production of Sea Island was 800 bales on 6,700 acres.

COTTON ACREAGE, YIELD, AND PRODUCTION

State	Acreage in Cultivation on July 1 (1,000 Acres)			Yield per Harvested Acre (Pounds)			Production 1,000 Bales (500 lb. gross wt.)		
	Average 1932–41	1942	1943	Average 1932–41	1942	1943	Average 1932–41	1942	1943
Missouri	409	426	377	404	476	386	333	417	295
Virginia	52	41	35	279	403	353	29	34	25
N. Carolina	986	861	850	307	412	337	606	727	595
S. Carolina	1,429	1,153	1,148	267	294	291	760	699	695
Georgia	2,278	1,735	1,617	219	240	254	997	855	850
Florida	90	59	47	140	141	176	25	16	17
Tennessee	839	725	723	290	420	326	479	625	490
Alabama	2,365	1,722	1,627	216	261	283	1,014	925	955
Mississippi	2,981	2,438	2,482	261	395	358	1,530	1,968	1,840
Arkansas	2,525	2,021	1,908	266	362	285	1,298	1,485	1,110
Louisiana	1,350	1,028	1,009	230	285	352	618	593	735
Oklahoma	2,478	1,872	1,580	150	190	121	691	708	385
Texas	11,074	8,430	8,123	160	182	172	3,419	3,038	2,860
New Mexico	114	134	115	462	409	475	104	111	111
Arizona	195	274	205	412	342	329	170	193	139
California	319	361	287	577	544	607	384	402	360
Ill., Kan., Ky.	24	22	18	367	459	414	18	21	16
United States	29,508	23,302	22,151	217	272	252	12,474	12,817	11,478

VALUE OF COTTON PRODUCTION

The price of cotton continued on a level much higher than in recent years. Cottonseed increased in importance as a source of vegetable oils because of war demands and the diminished imports of competing oils, and its price also remained high. Based on production and prices paid to producers to Dec. 1, the total value of the 1943 cotton lint and cottonseed production was $1,413,778,000 compared with $1,480,407,000 in 1942. Of the 1943 value, $1,146,680,000 relates to the lint and $267,098,000 to the seed. Although practically all of the lint is sold, a portion of the cottonseed is retained on the farm for seed, feed, and fertilizer. The preliminary price to Dec. 1 of cotton lint was 20 cents per pound compared with the season average price of 19.04 cents per pound for the 1942 crop. Similar prices for cottonseed were $52.20 per ton in 1943 and $45.60 for the 1942 crop. Included in the value of the cotton lint was the value of the cotton which was placed under loan and was unredeemed at the end of the year. For the 1942 crop, 3,143,000 bales were placed under loan, of which 2,263,000 had not been redeemed on Aug. 1, 1943. Loans were made on 2,619,000 bales of the 1943 cotton crop up to Dec. 25. The values do not include A.A.A. Conservation Program payments nor parity price payments.

GRAIN CROPS

Total production of all grains in 1943 fell 8 per cent short of the record production of 1942, but was 25 per cent above average. Tonnage was 143,000,000 as compared with 155,000,000 in 1942. The corn crop was second only to 1942 in size, the rice crop was the largest ever produced, and the sorghum crop was relatively large. The wheat, oats, and barley crops were of moderate size, while the rye crop was small. The total production of grain crops used primarily for food—wheat, rye, buckwheat, and rice—was 945,934,000 bushels, which was 14 per cent below 1942, but 14 per cent above the 10-year (1932-41) average. Details by crops are given in the table.

GRAIN PRODUCTION—UNITED STATES

Crop	Acreage Planted (1,000 Acres)			Yield per Harvested Acre (Bushels)			Production (1,000 Bushels)		
	Average 1932–41	1942	1943	Average 1932–41	1942	1943	Average 1932–41	1942	1943
Wheat									
Winter	48,015	38,072	37,834	14.3	19.7	15.6	550,181	696,450	529,606
Durum	3,126	2,155	2,189	10.1	21.2	17.0	26,992	44,660	36,204
Other Spring	17,806	12,000	15,086	11.7	20.0	18.7	161,240	233,066	270,488
All Wheat	68,947	52,227	55,109	13.5	19.8	16.5	738,412	974,176	836,298
Rye	6,101	6,512	5,805	11.4	14.9	11.1	38,589	57,673	30,781
Rice	987	1,483	1,531	48.4	44.5	46.7	47,334	64,549	70,025
Buckwheat	450	403	528	16.6	17.7	17.5	7,029	6,636	8,830
Corn, all	98,524	90,552	97,136	24.9	35.2	32.5	2,349,267	3,131,518	3,076,159
Oats	41,354	42,595	42,858	28.1	35.6	29.8	1,018,783	1,349,547	1,143,867
Barley	13,902	19,536	17,329	21.4	25.5	21.9	243,373	429,167	322,187
All Sorghums for grain	4,508[1]	5,871[1]	6,637[1]	13.1	18.2	15.5	61,294	106,770	103,168

[1] Harvested acreage.

WHEAT

The 1943 wheat crop of 836,298,000 bushels was 100,000,000 bushels above the average of recent years. It was grown on a moderate acreage, with the fourth highest yield of record. Generally speaking, the weather was favorable for the production of wheat in 1943. The loss of planted acreage from winter killing and other causes was considerably below average. Insect, disease, and drought damage was not severe and rainfall was opportune in many instances. The crop was well above ordinary domestic consumption of 670,000,000 bushels. In the 1942-43 season, over 300,000,000 bushels of wheat were used for feed and over 50,000,000 for alcohol. Consequently, the domestic consumption during that crop year was over 950,000,000 bushels. While some wheat was imported, the large stocks at the beginning of the year were materially reduced by its end. In the current season, July 1, 1943 to June 30, 1944, about 500,000,000 bushels will be fed and about 100,000,000 bushels used in the manufacture of alcohol. Domestic consumption, therefore, is likely to total the huge figure of over 1,200,000,000 bushels and will make further drastic reductions in the wheat carried over into the succeeding season.

The harvested acreage of 50,554,000 acres was slightly more than the 49,200,000 acres harvested in 1942. Total acreage sown, including some duplication of spring wheat sown on abandoned winter wheat acreage and a considerable acreage of volunteer wheat harvested, was 55,109,000 acres. This was 6 per cent more than the acreage sown for harvest in 1942. The acreage seeded was about equal to the A.A.A. Conservation Program allotment as originally set. The restrictive effect of the allotments on plantings was removed in February 1943, after the winter wheat crop had been sown, but before the spring wheat crop was planted. As a result, there was considerable disparity as between the winter and spring wheat regions in the extent to which the acreage seeded increased from the acreage seeded for the 1942 crop for which allotments were in effect for both winter and spring wheat seedings.

Although only 70 to 85 per cent of the wheat crop is sold off farms, the evaluation of production at the sales price gives a measure of the importance of this crop to the agricultural industry. Computed at the preliminary season average price of 132.9 cents per bushel, the 1943 crop would be valued at $1,111,039,000. The season average price for the 1942 crop was 109.8 cents per bushel, and the value, $1,069,982,000. The prices include allowances for loan wheat at average loan values. By the end of December 1943, 126,000,000 bushels of the 1943 crop had been placed under loan. In all, 406,000,000 bushels of the 1942 crop were placed under loan, all of which were called for redemption during the spring of 1943.

WINTER WHEAT

Winter wheat was seeded on 37,834,000 acres in the fall of 1942. A smaller acreage than in 1941 was seeded in Kansas, which annually has more than a quarter of all the winter wheat acreage, in the east north central states and in the Pacific Coast states. A slightly larger acreage was seeded in Nebraska and Texas. In Missouri, a substantial increase resulted from the return toward usual acreage from a greatly reduced acreage seeded in the fall of 1941. Winter wheat made good progress during the fall of 1942, even though the soil moisture situation was not favorable in some areas. In the southwestern states, conditions were nearly ideal for seeding and for growing. Abandonment of 10.3 per cent was only half the 10-year average. The late winter and spring were unfavorable and yields were reduced because of the spotted character of winter injury on some of the acreage that was harvested. There was also some acreage loss from the spring floods in the bottoms of the Ohio, Missouri, and Arkansas Rivers and their tributaries. The yield of 15.6 bushels per acre is consequently below the record yield of 19.7 bushels in 1942, but was still 1.3 bushels higher than the average yield. On the 33,952,000 acres harvested, a total production of 529,606,000 bushels was obtained, in comparison with the 35,436,000 acres harvested in 1942, with a production of 696,450,000 acres.

SPRING WHEAT

The production of all spring wheat of 306,692,000 bushels is the largest since 1928 and exceeded the large crop of 1942 by 10 per cent. In the important spring wheat areas, seeding conditions were generally favorable. The season developed with satisfactory soil moisture in the important states of Minnesota, Montana, and the Dakotas. Durum wheat production of 36,204,000 bushels was harvested from 2,189,000 acres. In 1942, 44,660,000 bushels were harvested from 2,109,000 acres. Production of spring wheat other than durum set a new record at 270,488,000 bushels. Although yield per acre was 1.3 bushels less than the record 1942 yield, the acreage harvested of 14,472,000 acres was 24 per cent greater and largely accounted for the record crop.

RYE

The acreage seeded to rye in the fall of 1942 was drastically reduced from that seeded in the preceding year. In part this was due to unfavorable weather at seeding time and in part to competition by more profitable war crops. Considerable acreage of rye is always sown for use as pasture, and during recent years there has been an expansion for soil conservation purposes. For the 1943 crop, the acreage was reduced toward the level of acreage usually grown on the thinner soils. Yields were generally lower than those of a year earlier, but higher than the average in many states. In all, 2,777,000 acres were harvested against 3,860,000 in 1942. The 1943 production of 30,781,000 bushels was only 53 per cent as large as that of 1942. The preliminary season average price was 97 cents per bushel, compared with 59.8 cents for the 1942 crop. Consequently, the value of production of $29,870,000 was only 13 per cent below the $34,491,000 value for the 1942 crop.

BUCKWHEAT

Production of buckwheat of 8,830,000 bushels was substantially above average and the largest since 1934. The largest acreage since 1931 was planted, and a total of 505,000 acres was harvested, well above the 375,000 acres harvested in 1942 and the 10-year average of 424,000 acres. The acreage expansion was due for the most part to the late, wet spring which to some extent prevented planting the intended acreage of the usual feed crops. Generally good growing conditions and a dry, open fall were favorable for the production of buckwheat. At the preliminary season average price of 121.6 cents per bushel, the crop had a value of $10,737,000. The season average price of 84.6 cents for the 1942 crop gave a value of production of $5,613,000.

RICE

Production of 70,025,000 bushels of rice in 1943 exceeds the previous record set in 1942 by about 8 per cent and is about 48 per cent above average. The largest acreage on record, 1,500,000 acres, was harvested and the yield per acre was only slightly below average. The southern rice area of Louisiana, Arkansas, and Texas produced nearly 56,000,000 bushels, compared with about 52,000,000 bushels in 1942. The crop in Arkansas suffered from a water shortage which reduced yields and resulted in heavier than usual abandonment of acreage. In Louisiana there was also a threat of salt in the irrigation water early in the season and a shortage of water which was followed by heavy rains and flood resulting from a tropical storm later in the season. Nevertheless, final production was somewhat above 1942. Texas had a favorable season except in an area visited by hurricane in late July and production was a fourth larger than in 1942. California had a greatly expanded acreage and, with favorable conditions for maturing and harvesting, produced about 14,000,000 bushels, the largest crop of record. The preliminary season average price of rice was 177.4 cents per bushel, which gave the crop a value of $124,243,000. The final season average price for the 1942 crop was 162.6 cents per bushel, and the value of production was $104,957,000.

FEED GRAINS

Combined production in 1943 of the four feed grains—corn, oats, barley, and grain sorghums—(expressed in tons to allow for different weights per bushel) totaled 115,055,000 tons, compared with 122,566,000 tons in 1942. Although it was 6 per cent less than the record tonnage of 1942, combined production of these grains was the third largest of record. The only other year in which a greater tonnage was produced was 1920, with 115,648,000 tons. Average production of these grains for the 10 years (1932-41) was 89,637,000 tons, but this period includes the two severe drought years of 1934 and 1936. The 1943 production, however, was 16 per cent larger than the pre-drought (1923-32) average of 99,489,000 tons. In that early period, corn acreage had not been limited by the allotments under the A.A.A. Conservation Program. The greater part of the production of these crops is fed on farms and only a small percentage moves into commercial channels. Farmers' incomes from these crops, therefore, are largely derived from the livestock to which the crops are fed. Very large stocks of these grains were on hand at the beginning of the 1942 crop season, but these were reduced in the face of the very large production because of the record numbers of cattle, hogs, sheep, and poultry on farms and the heavy production of livestock products called forth by wartime requirements. Further inroads into the supply were made in the 1943 crop season, as the result of further increases in the numbers of livestock on farms. Consequently, the feed supply per unit of livestock is actually less than in any of the years since the drought, but not far from the average during earlier decades.

CORN

The 1943 corn crop of 3,076,159,000 bushels was the second largest on record. It was 2 per cent below the record crop of 3,131,518,000 bushels in 1942. These estimates include the grain equivalent of corn used for silage, forage, hogging off, and pasturing, in addition to the corn husked and harvested and picked for grain. Corn acreage allotments under the A.A.A. were removed in 1943, and the planted acreage was increased by 6,500,000 acres. It was the largest acreage planted since 1937, although the weather was adverse at planting time. Planting intentions were not fully realized, but the need for feed over most of the country encouraged planting of late corn, as well as replantings of corn fields damaged by wet weather and floods. More than half of the acreage this year was planted with corn hybrid seed; in the important Corn Belt States, more than 90 per cent.

In the northern half of the country, the crop was retarded by wet weather in May and during the first part of June and made slow early-season growth. Heavy rains and floods and poor germination held back many fields. With warmer weather in June and July, the corn made an exceptionally rapid improvement. Moderate to generous rains in September brought relief to the Mid-Atlantic and south Central States, which had suffered from drought, and were very beneficial to the large acreage of late corn. In the important producing states of the Corn Belt, most of the acreage reached maturity by the time killing frosts were general, and the amount of soft corn was less than anticipated because of the late start. The yield of 32.5 bushels per acre harvested was second only to the 1942 record yield of 35.2 bushels.

Production of corn for grain in 1943 was 2,759,080,000 bushels, compared with 2,849,340,000 bushels in 1942. Corn silage was produced on 4,370,000 acres in 1943, compared with 3,897,000 acres in 1942, and 6,286,000 acres were harvested by livestock in 1943 compared with 4,572,000 acres in the preceding year.

A measure of the importance of corn may be gained by calculating the value of the entire production at the price received for the corn which is sold. On this basis, the value of production of the 1943 crop was $3,451,337,000, at a preliminary price of 112.2 cents per bushel. In 1942, the season average price was 91.7 cents per bushel, and the computed value was $2,871,400,000. The price of corn includes loans made under the A.A.A. Conservation Program to cooperators who seal part of their production in cribs on their farms. From the 1942 crop, 57,000,000 bushels were placed under loan, but all of this corn was redeemed before the end of the crop season. From the 1943 crop, only 93,000 bushels were placed under loan by Dec. 24.

OATS

While production of oats in 1943 was 15 per cent below the bumper crop of 1942, it was 12 per cent more than the 10-year average production. Yields per acre were generally a little above average, and the acreage harvested, 38,449,000 acres, was the largest since 1935. In New York, Pennsylvania, Michigan, and northern Ohio, the planting of oats was seriously hampered by excessive, prolonged rains in the spring. As a result, the planting of oats in this area was much less than usual, and in these states the acres of oats harvested was 800,000 less than in 1942. Yields per acre were also low and the combined oats production of these states was nearly 100,000,000 bushels below the preceding year. In most of the other oat-producing states, yields were above average, but the production of 1,143,867,000 bushels was 200,000,000 bushels less than the large 1942 crop. In all, 38,449,000 acres were harvested in comparison with 37,878,000 acres in the preceding year. In every year considerable acreage of oats is harvested for hay. Some is utilized entirely for winter pasture and some acreage is used as a cover crop or is abandoned. At the preliminary price for the season of 71 cents per bushel, the oats crop had a value of $811,861,000, much more than the $657,779,000 value of the larger 1942 crop at the lower price of 48.7 cents per bushel.

BARLEY

The 1943 barley production of 322,187,000 bushels is one-fourth less than the record crop of 1942, but a third larger than the 10-year average. The acreage of barley was reduced in all main producing states except North Dakota and Montana. Barley acreage has expanded greatly in the Great Plains States, but was at a very low level in Iowa, Illinois, Michigan, Wisconsin, and Minnesota. Competition from such crops as flax, soybeans, corn, dry edible beans and rice, for which war needs have increased, influenced growers in the north Central States and in several Western States to cut the acreage of barley below 1942. The growing season was poorer in 1943 than in 1942, but was better than average. Scab and blight reduced yields somewhat in North Dakota, and winter-kill damage, heavy summer rains, and green bugs reduced the yields in some other states. Acreage finally harvested was 14,702,000 acres, compared with 16,850,000 in 1942. The value of the 1943 barley crop, at the preliminary price of 99.1 cents per bushel, was $319,216,000. The 1942 crop, computed at the season average price of 63.1 cents per bushel, is $270,710,000.

GRAIN SORGHUMS

The crop of 103,168,000 bushels of sorghums for grain and seed was harvested from 6,637,000 acres in 1943. While slightly less than in 1942, this production was 68 per cent above average. A larger acreage was harvested than in 1942, but yields were much lower. These crops are produced in the Great Plains and southwestern states where they produced fair yields in spite of drought, which also was responsible for the reduced acreage harvested for grain than was intended earlier in the season. As a result, a larger acreage was handled as forage. Including both the production of grain and forage (but not silage, for which prices are not available) grain sorghum production was worth about $261,000,000 in 1943 in comparison with $158,000,000 in 1942. The preliminary season average price of grain sorghums in 1943 was 115.6 cents per bushel against 77.5 cents per bushel in 1942.

THE DAIRY INDUSTRY

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GENERAL

Under the stimulus of government price supports, production of milk and dairy products increased rapidly in both 1941 and 1942. The rapid advance in prices during 1941 prevented much of an increase in consumption, and substantial stocks were accumulated. With the imposition of price ceilings in 1942, the continued rise in consumer incomes, and increasing war requirements, consumption of most dairy products in late 1942 or early 1943 (part of 1943 data estimated) caught up with supplies available to civilians, and government controls of various types were instigated to assure adequate supplies to meet military and lend-lease needs. No controls were placed on the consumption of fluid milk until late in 1943, however, and sales expanded rapidly. For 1943 as a whole, consumption of fluid milk in urban areas was 20 per cent larger than in 1942. As total milk production in the first half of 1943 was the same as a year earlier and in the last half was several per cent smaller, production of most manufactured products was substantially smaller than in the corresponding months of 1942. To assist in maintaining total milk production, a War Food Administration subsidy of from 30 to 50 cents per hundredweight of whole milk and 4 to 6 cents per pound of butterfat became effective on Oct. 1.

GOVERNMENT SET-ASIDE ORDERS

To obtain adequate supplies to meet war needs, manufacturers of creamery butter, American or Cheddar cheese, and dried skim milk were required to set aside a certain percentage of their monthly production for purchase by designated government agencies. The percentage of butter and cheese to be set aside in 1943 was varied in such a way that supplies left for civilians were approximately constant throughout the year. The percentage of creamery butter to be set aside was 30 from February through April, 50 from May through July, 30 in August, 20 in September, and zero during the remainder of the year. For American cheese the percentages were 50 from Feb. 15 through April, 70 from May through July, 60 in August and September, 50 in October, and 25 during the remainder of the year. Effective Nov. 5, 1942, manufacturers were required to set aside 90 per cent of their production of spray-dried skim milk for government purchase. On June 1 the order was extended to include roller-dried skim milk, and the percentage to be set aside was reduced to 75.

RATIONING PROGRAMS

Supplies of butter for civilian consumption were extremely short of demand from December 1942 until the spring of 1943, and supplies of cheese became short early in the summer of 1943. To bring about an equitable distribution of the available supply, rationing of these commodities, together with meats and other fats, became effective April 1. The point values of creamery butter and hard cheeses were set at eight. Effective June 6 the program was extended to include perishable cheeses other than non-creamed cottage and similar types. The point value for cream, Neufchatel, and creamed cottage cheese was set at three and of all other rationed cheese except American at six. The point value of American cheese was continued at eight.

Although ample supplies of condensed and evaporated milk were available for immediate consumption, rationing was extended to cover these commodities effective June 2. The point value was set at one per pound. The rate of consumption prior to rationing was such that, if it had been continued until the end of 1943, supplies would have been inadequate to meet essential demands for babies and those unable to obtain fresh milk.

Supplies of butter and of cured cheese continued short of demand even under the rationing program. Apparently consumers in the principal butter producing areas had plenty of red points, and manufacturers sold as much as possible in the local market after setting aside the required per cent for government purchase. The shortage was particularly acute in eastern and far-western areas, where some retail stores were out of butter for considerable periods in the late summer and fall months. On Aug. 1 the point value of creamery butter was raised to 10, on Sept. 5-12 and on Oct. 3 to 16. The percentage of butter to be set aside for government purchase was reduced to the minimum consistent with war needs. Supplies of cured cheese were extremely short as price ceilings encouraged immediate consumption.

OTHER RESTRICTIONS ON CIVILIAN CONSUMPTION

Several government orders restricting civilian consumption were issued in late 1942 and continued in substantially the same form throughout 1943. Effective Nov. 25, 1942, the sale of cream containing in excess of 19 per cent butterfat except for the manufacture of other foodstuffs was prohibited. On Dec. 4 a temporary order was issued limiting the amount of total fat and nonfat milk solids used in ice cream and other frozen milk desserts or mix for civilian use to 60 per cent of the amount used in October 1942. This order was effective in December 1942, while in January 1943 the percentage was reduced to 50. Effective Feb. 1 a permanent order limited the total milk solids for use in frozen dairy foods for civilian use to 65 per cent of the amount used in the corresponding month of the base period, December 1941 to November 1942. On May 1, 1943, allocation control was established for processed industrial casein, and amounts available for certain nonessential civilian uses were severely restricted.

Between Nov. 5, 1942 and June 3, 1943, government orders restricting civilian consumption of every major dairy product except fluid milk became effective. Most of these were designed to assist in meeting military and lend-lease requirements, but some were aimed mainly at an equitable distribution of available civilian supplies. With no restrictions, however, consumption of fluid milk increased at the rate of about 1 per cent per month from January through September. This resulted in a substantial reduction in milk supplies going into the production of manufactured dairy products and also caused intense competition for supplies among fluid milk dealers, particularly in deficit milk producing areas. To forestall individual consumer rationing of fluid milk and to help assure an adequate production of manufactured dairy products, the War Food Administration in September authorized the limitation of sales of fluid milk and cream and skim milk byproducts (skim milk, cultured buttermilk, flavored milk drinks, and cottage cheese) through a system of dealer quotas. Dealers' quotas beginning Oct. 4 in several marketing areas were set at 100 per cent of their June sales for fluid milk and at 75 per cent of their June sales for cream and skim milk byproducts. Additional markets were brought under the program as fast as administrative facilities permitted.

PRICE INCREASES RETARDED BY CONTROLS

Maximum prices of fluid milk and cream at retail and of ice cream at wholesale and retail were established in May 1942, of bottled fluid milk and cream at wholesale in August, and of most other dairy products at wholesale and retail in October 1942. On Feb. 13, 1943, ceilings were placed over prices received by farmers for milk for fluid use. In practically every instance maximum price controls on dairy products have been effective. Prices have continued at ceiling levels since the controls first were applied and increases in prices have been retarded. Price ceilings were fixed at a constant level throughout the year and hence the usual seasonal variation in prices was largely eliminated. During 1943 increases were permitted in the price of some minor items, such as casein and most cheeses other than American, but the effect of these increases on consumers was more than offset by the 5-cent rollback in the price of butter which became effective at retail on June 10. In certain local areas the price of fluid milk at retail and of milk for fluid use at the farm level was permitted to increase to avert local shortages.

The index of wholesale prices of manufactured dairy products (1935-39 =100), not adjusted for seasonal variation, was 117 in 1941, 135 in 1942, 157 in May 1943, and 145 in October. The index of prices of retail milk (delivered) on the same base was 12 in 1941, 123 in 1942, 128 in May 1943, and 127 in October. The index of prices received by farmers for all dairy products (1910-14=100), not adjusted for seasonal variation, was 131 in 1941, 152 in 1942, 179 in May 1943, and 190 in November. Differences in trends between farm and other price series are partially accounted for by the fact that certain government subsidies are included in the farm price but excluded from the wholesale and retail price.

GOVERNMENT PRICE SUPPORTS AND SUBSIDIES

On Nov. 27, 1942, support prices were announced through June 1944 at 90 per cent of parity price equivalent but not less than 46 cents per pound for 92-score butter, Chicago basis; 27 cents per pound, including subsidy, for No. 1 American cheese, Plymouth, Wisconsin, basis; 12.5 cents for roller and 14.5 cents for spray-process dried skim milk, extra grade, Midwest basis; and a comparable price for evaporated milk, f.o.b. Midwest plants, later announced at $4.10 per case. No changes in these support prices were made during 1943.

As the support price for American cheese was 3¾ cents above the ceiling price, the Commodity Credit Corporation, effective Dec. 1, 1942, agreed to purchase cheese from manufacturers at the support level and sell it back at the ceiling price. Similar purchase and resale programs for fluid milk have been in operation in Washington, Baltimore, Wilmington, Omaha-Council Bluffs, and Pennsylvania marketing areas since April 1943. When the rollback in retail and wholesale butter prices was announced, the Reconstruction Finance Corporation agreed to pay butter manufacturers a subsidy of 5 cents per pound so that no reduction need take place in prices received by farmers for butterfat.

A program of government payments to protect dairy farmers against increases above September 1942 dairy feed prices was announced by the War Food Administration, effective for the period Oct. 1 through Dec. 31, 1943. Payments were highest in areas where the quantity of purchased feed is large and feed costs advanced most, and where the advance in prices received for milk since the period immediately preceding our entry into the war was least. Payments ranged between 30 and 50 cents per hundredweight for milk delivered as whole milk and between 4 and 6 cents per pound of butterfat where cream was sold, except in areas where other Federal programs for dairy producers were in effect.

MILK PRODUCTION

Milk production on farms in 1943 totaled approximately 118,000,000,000 pounds, compared with 119,200,000,000 pounds in 1942 and a 1935-39 average of 103,600,000,000 pounds. A 2 per cent increase in numbers of cows on farms was more than offset by a 3 per cent reduction in milk per cow. During the first half of 1943, production was the same as a year earlier. In the second half, it was 2 per cent smaller. Extreme drought conditions in the Baltimore-Washington milksheds and the south central States and a shortage of feed grains and high protein feeds in eastern and western areas of heavy milk production were the principal factors accounting for the decline in the last half of the year. The general dairy subsidy program probably prevented a much sharper decline in the fourth quarter. The labor shortage was eased in late 1942 by Selective Service orders to help farmers keep skilled workers on essential livestock farms.

FARM INCOME FROM DAIRY PRODUCTS

Farm income from the sale of dairy products has been increasing since 1939, and in 1943 was 23 per cent larger than in 1942 and 103 per cent above the 1935-39 average. In 1943, income from dairy products made up 15 per cent of the cash farm income from the sale of all crops and livestock combined. In every year from 1920 through 1943 milk production was the largest single source of income. The $2,865,000,000 income from dairy products in 1943 compares with $2,615,000,000 from hogs, $2,730,000,000 from cattle and calves, $1,485,000,000 from cotton and cottonseed, and $930,000,000 from wheat. Part of the income from the sale of cattle and calves was from dairy stock.

In addition to the cash income received by farmers from the sale of dairy products, it is estimated that the milk, cream, and butter consumed on farms had a value of about $482,000,000. Thus the gross farm income from dairy products in 1943 was $3,347,000,000.

UTILIZATION OF MILK

The 121,000,000,000 pounds of milk produced in 1943 by cows on farms and in cities and villages were utilized and finally consumed in a variety of ways. About 3,000,000,000 pounds were used on farms for feeding calves, and about 11,000,000,000 pounds were consumed as milk and cream by people living on farms. An additional 7,000,000,000 pounds of milk were used in making farm butter. Thus, 21,000,000,000 pounds of milk, or about a sixth of the total production, were used on farms where produced and did not enter the channels of trade. The urban population consumed as fresh milk and cream in 1943 the equivalent of 42,000,000,000 pounds of milk. Hence, total farm and urban consumption of fresh milk and cream required 53,000,000,000 pounds of milk, or roughly 45 per cent of the total production. This compares with 40 per cent in 1942 and 41 per cent in the period 1935-39.

Creamery butter utilized 35,000,000,000 pounds of milk and farm butter, 7,000,000,000 pounds, making a total of about 35 per cent of the total production of milk. About 10,000,000,000 pounds of milk were utilized in cheese in 1943, 7,000,000,000 pounds in condensed and evaporated milk, and 4,000,000,000 pounds in ice cream, leaving 2,000,000,000 pounds for all other uses.

Of the 11,300,000,000 pounds of skim milk available for manufacture, 5,200,000,000 pounds were dried for human use, 700,000,000 pounds were used in casein, 4,100,000,000 pounds were used in other forms for human consumption, and 1,300,000,000 pounds were fed to livestock or wasted. An estimated 29,000,000,000 pounds of skim milk were fed to livestock on farms or wasted in 1943, compared with 31,000,000,000 pounds in 1942 and a 1935-39 average of 34,000,000,000 pounds.

PRODUCTION OF MANUFACTURED PRODUCTS

With total milk production in 1943 slightly smaller than in 1942 and consumption of fluid milk substantially larger, production of most manufactured dairy products was substantially below the record high production in 1942. Production of cheese in 1943 was 974,000,000 pounds, 12 per cent below that in 1942 but 47 per cent above the 1935-39 average production. Production of condensed and evaporated milk was 3,368,000,000 pounds, 10 per cent below 1942 but 51 per cent above average. Production of dried whole and skim milk for human consumption was 599,000,000 pounds, 5 per cent below 1942 but 129 per cent above average. Total butter production was 2,066,000,000 pounds, 2 per cent below 1942 and 5 per cent below average. Although current estimates of ice cream production are not available, production of ice cream and sherbets together in terms of gallons may have been about as high as in 1942 and 75 per cent above average. Milk solids used in frozen desserts were about 30 per cent less than in 1942.

RECORD LOW CIVILIAN CONSUMPTION OF BUTTERFAT

In determining the milk equivalent of production and consumption of dairy products, conversion factors have been used which were based on the relative amounts of butterfat contained in the various products. On this basis, total civilian consumption of all milk and dairy products in 1943 was the lowest in any year since 1930, the earliest year for which data are available. Consumption on a fat-solids milk equivalent basis totaled 101,000,000,000 pounds in 1943, compared with 112,000,000,000 pounds in 1942 and a 1935-39 average of 104,000,000,000 pounds. On a per capita basis the consumption was 789 pounds milk equivalent, compared with 855 pounds in 1942 and a previous low of 797 pounds in 1936.

The milk equivalent of production and consumption of dairy products also can be determined by using conversion factors based on the relative amounts of nonfat milk solids (protein, minerals, and milk sugar) contained in the various products. Milk products containing nonfat milk solids are by far the most important nutritional sources of calcium and riboflaven. In view of the possible deficiencies of these two nutrients in civilian diets, this method of calculating milk equivalents is receiving increasing attention. Figured in this way the civilian per capita consumption of all milk and dairy products on a milk equivalent basis in 1943 was 508 pounds, compared with 490 pounds in 1942 and a 1935-39 average of 434 pounds. The difference between the civilian consumption of all milk on a fat and nonfat solids basis largely represents nonfat solids (skim milk, buttermilk, and whey) fed to livestock or used for industrial casein.

The civilian per capita consumption of fluid milk in 1943 was 16 per cent larger than in 1942 and 28 per cent above the 1935-39 average. Consumption of condensed and evaporated milk was 10 per cent smaller than in 1942, and of milk solids consumed in frozen desserts was 25 per cent smaller. Per capita consumption of these products was above the 1935-39 average consumption, however. Civilian butter consumption per capita was 15 per cent smaller than in 1942 and the smallest since 1875. Consumption of cheese was 23 per cent below the record high reached in 1942, and the smallest since 1934.

INSECT PESTS AND PLANT QUARANTINES

By P. N. Annand
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GENERAL

The efforts of entomologists, both state and Federal, in 1943 were largely devoted to phases directly associated with the war effort. Coordinated projects on insects as vectors of diseases most prevalent in military establishments, those affecting vital food and fiber crops, and the allocation of insecticide materials also needed in other military production, as well as the development of less restricted materials as insecticides, occupied most of their attention.

INSECTS AFFECTING MAN AND ANIMALS

Mosquitoes.—Three fairly good mosquito repellents, and a new anopheline larvicide that gives promise of greater value than any previously known, have been discovered. In strongly saline water with heavy vegetation, 30 gallons of fuel oil per acre controlled the breeding of salt-marsh mosquitoes. Under similar conditions 100 gallons of newly developed fresh-water oil emulsion per acre gave 86 per cent control and 150 gallons gave 97 per cent control in four hours.

Body Lice.—Investigations on the fumigation of body lice in clothing and equipment conducted for the Army resulted in the adoption of vault fumigation for delousing large quantities of clothing and individual bag fumigation for small quantities.

Cattle Grubs.—A saving of 25 per cent or more on ground derris or cube root for use on cattle grubs has been effected when dusts were employed by using pyrophyllite or tripoli earth as diluents instead of talc or sulfur. The two former diluents carry the rotenone dust down into the hair of the heavy-coated animals of Wyoming and Montana, but the talc and sulfur do not. An unprecedented outbreak of the screwworm occurred in 1943. From two points of heavy infestation, southern Texas and Florida, the insect spread until by the end of the season it occurred from the southeastern corner of South Carolina to the Pacific and as far north as Iowa, Illinois, and Indiana. The new remedy, Smear 62, was very effective in control.

Flies.—Studies in connection with the stablefly demonstrated that the grass deposited on the beaches by the tides stimulated intensive egg-laying only when fermented. Treatment of the grasses with creosote oil and salt water was effective in killing the immature stages. This remedy was used on an extensive scale to protect military personnel along the coast. One of the mosquito repellents was effective in protecting dogs and horses from these flies.

CEREAL AND FORAGE CROP INSECTS

Hessian Fly.—Infestations of the hessian fly at harvest time in 1943 were low generally; however, there were menacing populations in local areas throughout the winter-wheat belt. As a result of cooperative work of the Bureau of Entomology and Plant Quarantine with the Bureau of Plant Industry, Soils, and Agricultural Engineering, and the California Agricular Experiment Station, club-types of wheat considerably resistant to the attack of the hessian fly were released to California growers in 1942. Other varieties of wheat possessing resistance to diseases as well as to the hessian fly, are soon to be ready for use in Kansas and Indiana.

The European corn borer was more abundant and destructive in 1943 than in any year since its introduction into the country. It was found to have extended its range to the west and northwest to include northeastern Missouri, east-central Iowa, and southeastern Minnesota. Commercial-scale trials of derris spray and of dual-fixed nicotine dust reduced infestation on sweet corn and increased the yield netting a profit of $400 per acre.

Grasshoppers.—Damage by grasshoppers in 1943 continued in its downward trend. The adult survey showed a build-up of populations in northeastern Washington and Oregon and from eastern Montana through the Dakotas into east-central Nebraska. There are also threatening populations in western Kansas and eastern Colorado. Damage by the Mormon cricket was in general less than the year before. Threatening populations, however, were disclosed by the adult survey in northeastern Nevada, northeastern Idaho, north-central Wyoming, and northwestern Colorado. The use of cotton seed hulls and sawdust with mill-run bran as substitutes for more expensive material gave satisfactory results. The use of steam-rolled wheat and low grade flour were found as effective as high-priced bran for use in bait.

Beetles.—Infestations by the white-fringed beetle were discovered in 1943 in four additional counties in North Carolina, and in localities near known infestations in Alabama, Florida, Louisiana, and Mississippi. More efficient methods of fumigation and cultural and cropping practices conducive to reduction of populations have been developed. Improvements in spray machinery and nursery barriers and the development of an airplane hopper for insecticide distribution have advanced the progress of control work.

WHEAT BIN FUMIGANTS

War-time conditions have made it necessary to store wheat in bins on farms for a long time. The procedure of fumigation when first placed in storage, and periodical fumigations protects the grain from insect damage. Experiments with hydrocyanic acid, methyl bromide, and other commonly recommended fumigants, applied in standard concentrations, indicated that none was harmful to the vitamin B_1 (Thiamin chloride) in enriched flour; methyl bromide, chloropicrin, and carbon disulfide, when applied in ordinarily recommended concentrations materially reduced the germination of wheat having a moisture content of over 12 per cent. A general fumigation of flour mills followed by fumigation of conveyors every three weeks and weekly removal of stock from elevator kept insect populations down.

In areas in Pennsylvania where barberries have been kept suppressed, normal yields of grain have been produced annually, while in the barberry-infested areas local outbreaks of stem rust of wheat and the accompanying crop failures continue to occur.

FRUIT INSECTS

The codling moth caused more injury in 1943 than usual over most of the eastern part of the country. Heavy populations entered hibernation. It was found that phenothiazine could be substituted for lead arsenate in early cover sprays, and in the Pacific Northwest improved stickers resulted in control by the use of one-half the amount of phenothiazine than had been used previously.

Oriental Fruit Moth.—Following the discovery of the oriental fruit moth for the first time in southern California in the fall of 1942, a cooperative Federal and state survey in the western half of the country was made in 1943. The survey disclosed newly infested areas extending from northeastern Texas through Oklahoma, eastern and east-central Kansas, and southeastern Nebraska into southern Iowa.

JAPANESE BEETLE

The Japanese beetle infestation in the older infested areas, continued generally low, whereas in the comparatively newly infested territory around the edge it was very heavy. No important spread of infestation was noted in 1943. The milky disease continued to give control of the grubs. The development of two new methods of treating nursery stock was of special importance; one, the use of ethylene dichloride dip for the treatment of plants with root masses or soil balls, and the other, the treatment of growing nursery stock in the field with a dilute solution of methyl bromide. Two new treating schedules, providing for lower temperatures with methyl bromide fumigation of potted plants, were authorized.

FOREST INSECTS AND DISEASES

Bark Beetles.—There was a marked decrease in the amount of timber destroyed by western bark beetles in 1942 compared with previous years. The reduction was due to increased efforts to control incipient outbreaks and to build up resistance of forests as well as to natural causes. Trees intended as camouflage for army camps were injured when the camps were being erected, resulting in bark beetle and borer attack. Army officials were instructed on tree-maintenance rules and large numbers of trees were saved.

Ambrosia Beetles.—Owing to the scarcity of high-grade Sitka spruce suitable for airplanes, it is important that damage to the sapwood by ambrosia beetles be prevented. Studies were made on the period of time within which logs must be removed from the woods to avoid attack and the maximum allowable time before serious damage results.

Gypsy Moth.—Defoliation by the gypsy moth was the lowest recorded since 1924. Populations were reduced by cold weather of 1942-43, when most of the eggs above the snow line were killed. Methyl bromide fumigation as a basis for certification of some classes of restricted articles was introduced for the first time.

Dutch Elm Diseases.—First-record infections of the Dutch elm diseases were reported from 44 localities, nine of which were in Connecticut, one in New Jersey, seven in New York, four in Massachusetts, 17 in Pennsylvania, five in Ohio, and one in West Virginia. Women scouts were used for the first time in this work, having been employed in the Wilkes-Barre, Pa., district.

Blister Rust.—White pines infected with white pine blister rust were found for the first time in one county in Wisconsin and in three counties in Michigan, and Ribes infection reported for the first time in one county in Minnesota and 11 counties in Iowa. These localities are within the area where the disease has been found on its alternate hosts, currants and gooseberries. There was no important extension in 1942 of the area where the disease is known to occur.

TRUCK CROP AND GARDEN INSECTS

Recent research shows that a dinitro compound may be substituted for pyrethrum in the control of the potato leafhopper on potato and beans, and that basic copper arsenate is as effective, on the basis of laboratory or small-scale tests, as calcium arsenate against the tomato fruitworm, the Mexican bean beetle, and the Colorado potato beetle. The new materials phthalonitrile and 2-fluorylamine, proved to be the most promising substitutes for lead arsenate for the control of the tobacco flea beetle and the hornworms. A nicotine-rotenone-sulfur combination, with the rotenone content reduced, was effective in controlling the pea aphid. Experiments with carriers and diluents show that pyrophyllite increases the efficiency of rotenone dust mixtures and that in general the talcs are superior to the clays. Work in Maine has shown that aphid infestation can be greatly reduced by rotenone-soybean oil and nicotine-rotenone sprays.

COTTON INSECTS

In the summer of 1943 the boll weevil activity was checked by weather in Texas, Oklahoma, and Arkansas, and damage was much less than anticipated. Infestation in the southeastern States was about normal.

Considerable infestation by the cotton leafworm occurred in Texas, Oklahoma, Missouri, Louisiana, Mississippi, and Alabama.

Injury by the bollworm in 1943 over the Gulf region was light, with heavy local damage in Texas and Georgia and also in Arizona. Infestation by pink bollworm was found in 1943 to occur in certain counties of the Gulf coast of Texas and southwestern Louisiana. At the invitation of the Mexican Government, the Bureau of Entomology and Plant Quarantine established headquarters in Mexico in order that the cooperative work between the two countries on the pink bollworm may be more effective.

BEE CULTURE

In the studies of resistance of honeybees to American foulbrood, 575 queens of experimental stock were reared, of which 270 were distributed to state agencies for testing and observation. Considerable increase in the number of colonies without disease has been shown by two lines of stock now in the fifth generation.

INSECT IDENTIFICATION

Service activities directly associated with the war included identification of many lots of insect material from military sources, personal instruction to officers of the Army, Navy, and Public Health Service in identification and classification of mosquitoes and other insects affecting human health. Data on disease-carrying insects from the countries bordering on the Mediterranean, Australia, New Zealand, and the South Pacific Islands was furnished to the Office of the Surgeon General, War Department.

FOREIGN PARASITE INTRODUCTION

This work has been limited to the introduction of parasites from South America, especially Brazil, Argentina, and Peru. Forty-one consignments were forwarded to the United States and 13 to Puerto Rico. Arrangements were made for the importation of *Plaesius javanus* Erichson from Fiji, a consignment of adults being forwarded to Honduras for release against stem-feeding grubs. Cooperative work with the Mexican Department of Agriculture was started on the biological control of the citrus blackfly on the west coast of that country. An effective parasite, *Eretmocerus serius* Silv., originally imported from Malaya, was sent from the Canal Zone.

INSECTICIDE INVESTIGATIONS

The search for possible domestic sources of rotenone has been continued. Studies were continued on synergists for pyrethrum, and three piperonylamides and piperine were found to be useful against house flies, and five materials were found that increased the effectiveness of pyrethrum dusts against leaf-feeding beetles.

FOREIGN PLANT QUARANTINES

More than 13,000 airplanes from foreign countries were inspected upon arrival, an increase of 51 per cent, and of this number 3,219 were found to carry prohibited plant material. The use of ballast consisting in part of surface soil by vessels arriving at Atlantic ports presented a problem of pest introduction. Other complications resulting from the war included the discharge of cargoes at ports in areas where such landing is ordinarily not permitted.

MEXICAN BORDER SERVICE

There was an increase of 26 per cent in the number of freight cars from Mexico inspected. In order to meet the requirements of entry needed to safeguard against pest risk it was necessary to fumigate approximately one-fifth of the number inspected, an increase of about 200 per cent over last year. Nearly 5,000,000 other vehicles and more than 350,000 pieces of baggage were examined through cooperation with the customs officials.

FISHERIES

By Charles E. Jackson

Assistant Director, U. S. Fish and Wildlife Service

WARTIME ROLE OF THE FISHERIES

The impact of war upon United States fisheries has been direct and severe, and the importance of its effect on the industry is considerable because of the large volume of the fishery products involved and the variety of their uses. Although the need for increased production of fish and shellfish is more acute than ever before, the direct effects of the war upon fishing are so numerous and so hampering that not only has it proved impossible to increase production, but it has been extremely difficult even to approach the normal yield of fish and shellfish.

The increased demand for fishery products has been reflected in all branches of the industry. Canned fish, because of its high nutritive value and the ease with which it may be transported, is needed in large quantities for shipment to troops overseas and to our allies through lend-lease channels. In 1943 the Government requisitioned 55 per cent of the pack of canned salmon, sardines, and mackerel, and, during a part of the year, 60 per cent of the tuna pack. Demand for fresh and frozen fish, especially in large centers of population, was greatly in excess of the supply. Astronomical quantities of vitamin A, of which fish livers are the principal natural source, are required for the armed forces because of its value in improving vision in dim light. The so-called "byproducts" of the fisheries —meal and oil—are highly regarded as animal feeds, and the demand for these products is practically unlimited. Fish oils also play an essential role in many industries and are especially valuable as cutting oils and lubricants for light, rapidly moving machinery.

Although the record population of our fisheries is about 5,000,000,000 pounds, this was achieved in 1941 when the fleet was of maximum size and resources of manpower and gear were unlimited. The following year, the first of our participation in the war, the catch declined to only about 3,750,000,000 pounds. While production in 1943 has been perceptibly larger, and may approach 4,000,000,000 pounds, it will be far short of the 6,000,000,000 pounds, the official estimate of the quantity of fish needed to meet wartime requirements.

LOSS OF VESSELS TO MILITARY SERVICES

The most important single cause of the reduced production of the fisheries is the requisitioning of several hundred of the larger and more efficient vessels by the Army and Navy. The transfer of boats to the military services took place on a large scale in 1942, and its effect on production was most marked during the latter half of that year and in the early months of 1943. Most seriously affected were the purse seine fisheries for pilchard and menhaden, the New England otter trawl fleet, and the tuna fisheries. A single large otter trawler is capable of landing about 5,000,000 pounds of fish in a year, while a large purse seiner may bring in 6,000,000 or 7,000,000. It is estimated that the aggregate effect of the loss of vessels by the fishing industry was a decline of approximately 1,000,000,000 pounds in the total production.

During 1943 some of the requisitioned vessels were returned to the fishing industry in various parts of the country. These included about 50 of the large seiners and trawlers, as well as a large number of vessels and other floating equipment which had been taken over from the salmon industry in Alaska.

In the interest of increased food production, the Office of the Coordinator of Fisheries has made arrangements with the Army and Navy for the return of vessels to active fishing as rapidly as they can be spared from military service. The Coordinator's Office also has sponsored a program of vessel building and during the year obtained controlled materials allotments for the construction of nearly 400 vessels, and in addition obtained more than 1,000 separate priorities for materials needed for vessel repairs. It was estimated that the construction of new vessels would offset the number normally lost, destroyed, or withdrawn from fishing for age or other reasons, but would by no means be adequate replacement for those requisitioned by the armed forces.

GEAR AND MANPOWER PROBLEMS

The critical gear situation also has limited fishery production. Most of the hard fiber ropes and twine used by fishermen to operate their boats and fishing gear were made from either manila or sisal. Since manila is produced only in the Philippines, all imports of this material have been cut off. The largest source of sisal was the Dutch East Indies, although some new sources of supply have now been located and developed. Extensive tests have been made with substitute fibers, and some of these have proved reasonably satisfactory. Aside from the shortage of fibers, however, the fishing industry has suffered from a reduction in the number of manufactured nets available. This has been owing to the heavy demand by the military services for netting to use for camouflage purposes, in cargo nets, and in other ways. Late in 1943, however, the Army cancelled its contracts for additional supplies of netting, thus permitting manufacturers to concentrate on supplying badly needed nets to the fishing industry.

The shortage of manpower has been acute in many branches of the fisheries. In addition to the large number of fishermen serving in the armed forces, many have transferred from active fishing or from employment in shore plants into war industries. As a result, the shortage of fishermen, skilled filleters, oyster shuckers, and others essential to the production and processing of fish locally assumed serious proportions. For example, the number of oyster shuckers engaged in plants in the Delaware Bay area declined from the pre-war level of 1,800 to about 700 in 1943. The lack of filleters, whose trade is rather specialized, has seriously impeded the marketing of quantities of fish of species which are most acceptably handled in filleted form.

WARTIME OPERATION OF THE MAJOR FISHERIES

The war brought extremely difficult problems to the salmon industry, which provides a larger quantity of food than any other, almost the entire half-billion-pound yield being utilized as food. Because most of the catch is made in Alaska where the fishing areas are widely scattered and remotely situated, the acute shortage of shipping which developed in 1942 made it very difficult to arrange for the normal pack of salmon. The Alaska industry is limited to a short season, and the majority of labor, canning materials, and fishing equipment must be imported.

To solve these problems, the salmon industry and the Office of the Coordinator of Fisheries devised a Salmon Concentration Plan for the 1943 season. Under this plan the industry centered its operations in its most efficient plants and provided for a sort of rationing of transportation, floating equipment, and labor among the various producers. The season's operations resulted in a pack of 5,409,000 cases. The industry voted for a repetition of the concentration plan in 1944, expressing the opinion that it had been able to produce more canned salmon by operating fewer plants and using less labor and equipment than under normal conditions.

The pilchard fishery, which produces a larger tonnage than any other in the United States, also operated under wartime regulations administered by the Coordinator of Fisheries. A coordinated production plan was worked out in cooperation with the industry to provide for the best utilization of the catch. Pilchard boats ordinarily distribute their catches according to economic agreements among the various canneries and reduction plants, meal and oil being important products of the fishery in addition to canned sardines. The principal effect of the production plan is to direct the landings in such a way as to obtain the maximum canned pack.

FISH MEAL AND OIL

The chief sources of fish meal and oil are the pilchard, menhaden, and Alaska herring fisheries. Although the production of fish meal of all kinds was only 171,000 tons in 1942, the quantity needed in 1943 was estimated as 265,000 tons. It is not expected that this goal will be attained, but during the first nine months of the year the output of meal was nearly one-third larger than during the corresponding period in 1942. Because of the inadequate supply, a protein conservation program was developed by the Agriculture Department and the Feed Industry Council which calls for a smaller quantity of animal proteins in stock feeds than is ordinarily desired, percentages varying from 5 to 10 per cent as compared with the normal one-third.

It proved necessary also to conserve the supply of fish oil. Effective July 1, the War Food Administration limited certain classes of manufacturers to 40 per cent of the average amount of fish oil they had used in

1940 and 1941. Chiefly affected were manufacturers of shortening, water soluble soap, paints, varnishes, lacquers, linoleum, oil cloth, and printing inks. The following uses of fish oils were unrestricted: certain vitamin feeding oils for poultry, medicinals or pharmaceuticals, lubricating oils and greases, leather processing, terne plating and galvanizing, alkyd resins, and certain classes of core oils.

NEW FISHERY PRODUCTS

Several new fisheries were developed as a result of wartime demands, and a number of new fishery products made their appearance on the market. Among these were canned sea mussels and canned sea herring. Production of canned river herring was greatly increased. Menhaden was canned successfully in Florida, but the operations were on a very limited scale and the product intended primarily for lend-lease shipments. A ground fish paste was developed, utilizing quantities of the undersized fish of commercial species that are taken incidentally in the Gulf Coast shrimp fisheries. Whale meat appeared in some cities, and the demand for shark meat on the Atlantic coast and in the Chicago area exceeded the available supply. Programs to stimulate the use of fresh-water species like carp, buffalofish, and suckers achieved some success.

MANAGEMENT OF SHELLFISH RESOURCES

The need for increased quantities of food stimulated interest in improved methods of cultivating shellfish. Production of oysters—one of the most valuable of all fishery products—has declined from 182,000,000 pounds to 89,000,000 pounds during the past 50 years. However, both the yield and the quality of oysters can be improved by the application of scientific methods of cultivation, a fact which has been abundantly proved on beds developed by private enterprise in New England, New Jersey, and elsewhere. The Fish and Wildlife Service recommended to officials of various Atlantic coastal states that consideration be given to developing a system of state management of their oyster resources. According to this plan, oyster fishermen, under the direction of state-employed experts, would plant seed oysters and cultivate them for the two to four years necessary for the oyster to mature, and would then harvest the crop under state direction. Several of the states have expressed keen interest in this plan.

OFFICE OF THE COORDINATOR OF FISHERIES

During 1943 the Office of the Coordinator of Fisheries, which was established by Executive Order late in 1942, was organized on a regional basis and Area Coordinators were assigned to each of 11 major fishing areas. These representatives of the Coordinator deal directly with fishermen and industry representatives, arranging for the return of vessels by the Armed Forces, securing engines for fishing boats, assisting in obtaining priorities for repair materials and authorization for new construction, aiding in manpower problems, and performing scores of other services which promote the effective functioning of the industry.

FORESTRY

By Charles E. Randall

United States Forest Service

TIMBER PRODUCTION WAR PROJECT

The second year of the United States participation in the war brought continuing heavy demands on the nation's forests. Wood, once considered one of the country's most abundant and readily available materials, was a critical item. Production was falling short of demands.

To help stimulate a greater output of forest products for war needs the U. S. Forest Service, at the request of the War Production Board, initiated a special Timber Production War Project. Farm woodlands and other small timber holdings were looked to as a principal source of added supplies, especially in the southern, northeastern, and midwestern states where about 3,500,000 farms include woodland acreage. It was hoped that production from thousands of small mills in these states, that had been idle or operating at only a fraction of capacity, could be materially increased.

Project foresters were assigned to assist woods owners and mill operators in meeting labor and equipment problems, advise on cutting and marketing, and help channel timber production into the most essential uses. The foresters urged good forest practice in all cases, however, so that ample growing stock would be left in the woods.

FOREST PRODUCTS LABORATORY

At the Forest Products Laboratory, Madison, Wis., all work was centered on war uses for wood. Work on shipping container problems for Army ordnance expanded. New containers were designed and old types were modified to facilitate shipment of war supplies such as anti-aircraft guns, mobile shop trucks, rifles and "bazookas," armored trailers and cars, and ammunition. Assistance was given manufacturers, lend-lease, and the War Food Administration, as well as the Armed Services, and the work brought about substantial savings in materials, costs, and in cargo space.

Complying with a request of the Ordnance Department and cooperating agencies, the Laboratory gave training courses for nearly 3,000 packaging inspectors. The Laboratory also conducted courses for army and navy personnel and factory representatives in the inspection, repair and maintenance of wood aircraft, the inspection of wood ship construction, and the manufacture of plywood and veneer. The Quartermaster General's Office was given assistance in the design and construction of Army cots, and a non-metallic spring for land mines was developed.

In compliance with a request from the War Production Board, an experimental pilot plant investigation was started for the production of wood sugar from wood waste and low quality timber. In turn, ethyl alcohol or high protein livestock feed can be produced from wood sugar. Utilization of wood waste as a source of alcohol and protein feed may help to conserve grain supplies for domestic and lend-lease purposes.

Reports of tests with a Laboratory truck operated with a gasogen (wood gas substitute for gasoline) were compiled for government agencies placing contracts for China. Consulting assistance on the adaptation of wood was given manufacturers of office equipment, lighting fixtures, radiators, bed springs, mattress frames, factory truck wheels and tires.

A high-strength resin impregnated paper plastic known as "papreg," developed at the Laboratory, was adapted to commercial uses for equipment cases, gun turret parts, and aircraft parts.

RANGE MANAGEMENT RESEARCH

The Forest Service, through its Southern Forest Experiment Station, began a research program on problems of livestock grazing on forest lands in Louisiana in cooperation with the Louisiana State Agricultural Experiment Station. The objective of the program is to determine possibilities for improving grazing use of forest lands in that state in order to increase livestock production.

Much of the livestock produced in the southeast grazes in woodland areas. Better understanding of the use of protein supplements in feeding forest-grazed livestock is opening the way for greater beef production in southeastern states. Cooperative experiments in North Carolina and Georgia indicated that cows, whose feed was supplemented with cottonseed meal during the fall and winter months, grazed woods forage more freely and gained 22 pounds, whereas cows without supplemental feeding lost 81 pounds. Experimental herds produced a 91 per cent calf crop in contrast to a 40 per cent calf crop where herds on comparable forest ranges were handled under customary practices.

In the West, research on artificial seeding of depleted ranges gives promise of increased forage supplies. Incidentally, this research work made it possible for the Forest Service to fill urgent requests for instructions on concealment planting, dust control, and fire hazard reduction at Army and Navy bases.

Practicable methods were worked out by range specialists for the control of fast-growing mesquite, a shrub which is taking over much good grazing land on southwestern ranges. Further studies by the Forest Service showed that more meat per animal is produced by keeping cattle numbers in balance with range forage.

The grazing of domestic livestock on national forest ranges is an important factor in meat, wool, and hide production for war needs. Nearly 25,000 owners grazed livestock under pay permits in 1943 and about 12,000 owners used national forest range under the regulation providing free permits to dependent settlers and experimental or research institutions.

NAVAL STORES RESEARCH

Chemical treatments developed by the Forest Service in 1942 showed promise of giving higher naval stores yields per tree with little or no increase in labor. During the 1943 season, a number of commercial operators used the chemical treatments on freshly-chipped slash pine "faces." Increase in gum yields averaged 25 per cent. Increases up to 125 per cent have now been obtained experimentally, and it is believed that with improved techniques much greater yields will be possible on a commercial scale in the future.

Successful vegetative propagation of slash pine cuttings by the Southern Forest Experiment Station opened the possibility of selection and development of high-yielding planting stock to produce superior strains of naval stores producing trees. This may lead to future development of the naval stores industry largely on a plantation basis, much as Hevea rubber production changed from wild trees to plantations with the development of superior strains.

RIVER FLOW AND OTHER INVESTIGATIONS

Investigations at the Coweeta experimental Forest in western North Carolina developed a method of forecasting the flow of rivers that is being used by the Tennessee Valley Authority and private power companies as a basis for obtaining maximum power production from storage reservoirs. The method was arrived at by relating the behavior of streams from watersheds under various cover conditions to the fluctuations of ground water.

Although field inventory work on the nationwide forest survey, previously under way, was largely suspended for the duration of the war, reports on surveys of forest resources and industries previously completed were issued during the year for Georgia, Louisiana, northern Idaho, and the ponderosa pine region of Oregon and Washington.

NATIONAL FORESTS IN THE WAR EFFORT

Sales of timber from the national forests were greatly increased in response to war demands. National forest timber cut under commercial sales and given in exchange for land during the fiscal year 1943 totaled 2,369,463,000 board feet, an increase of 7 per cent over 1942 and 83 per cent over 1939. In spite of increased sales, however, the government policy of scientific, selective cutting was maintained, so that the existence of communities dependent upon a continuous yield of national forest timber would not be jeopardized. The trend toward increased use of publicly owned timber is likely to increase after the war, where adjacent stumpage on privately owned lands has diminished because of improper cutting methods. Foreseeing inevitable shifts in operations in the industry in clear cut areas, the Forest Service is planning for a sustained yield of national forest timber to help cushion the shock of greatly diminished timber supplies from private lands.

To augment supplies of Sitka spruce lumber, urgently needed for airplane construction, the Forest Service launched an Alaska Spruce Logging Project to provide high quality aircraft spruce from the Tongass National Forest in Alaska. After a 900-mile, storm-tossed trip by water, the first huge raft of logs, containing approximately 1,000,000 board feet, reached Puget Sound in January, 1943. Additional rafts of logs were delivered to Puget Sound mills at intervals, although production was handicapped by manpower problems and a shortage of tugs for towing the rafts. The logging was undertaken by private operators under contract with the Forest Service. In addition to aircraft spruce, several million feet of lower grade spruce and hemlock was delivered to mills in Alaska to provide lumber for military needs in the territory. Although the logs came from areas logged primarily for high-grade airplane spruce, the project kept the local mills operating continuously, thereby saving shipping space which otherwise would have been required to bring lumber from the states.

FOREST FIRE CONTROL

State and Federal forest fire protection organizations suffered a loss of experienced personnel because of military and other wartime needs for manpower. To maintain the fire control organization in the national forests, hundreds of high school students, principally 17-year-olds, were trained for seasonal guard or patrol work. Women were employed in many instances for duty at lookout stations, fire dispatchers' offices, and equipment depots. Assisting in fire control work were about 2,000 conscientious objectors in Civilian Public Service camps assigned to the Forest Service.

The Forest Fire Fighters Service, a national civilian volunteer fire fighting force organized through the cooperation of the Office of Civilian Defense, comprised a valuable manpower reserve for both state and Federal forest protection agencies. Local groups, enrolled by OCD, were trained by Federal and state foresters, and the volunteer workers, on call whenever outbreaks of fire occurred, proved effective in extinguishing many blazes. By the fall of the year the enrollment numbered nearly 200,000.

In recognition of the fact that forest fire control is more essential than ever in wartime because forest fires can destroy military facilities and disrupt war work, Congress appropriated supplemental funds for emergency forest fire control for the fiscal year 1943. The funds, utilized for providing intensified protection in vital areas, were allocated about equally between national forest lands and cooperative programs with 42 states on state and privately-owned land.

Forest protection agencies continued a nationwide campaign, launched in 1942, for public cooperation in preventing forest fires, with the assistance of the War Advertising Council, and numerous civic and conservation associations. The wartime forest fire prevention campaign was emphasized in each region of the United States during the local season of greatest fire danger. Advertisers, patriotic groups, and private individuals spread far and wide the campaign's slogan, "Our carelessness is the Enemy's Secret Weapon."

Only about three-fourths of the total United States forest area was as yet under some degree of organized protection from fire in 1943. Reports showed that 90 per cent of the annual acreage loss from fire in the United States occurs on forest lands still lacking organized protection, indicating that with adequate facilities and fully organized forces the forest fire problem can be solved.

NEW CHIEF FORESTER

Lyle F. Watts was appointed Chief of the United States Forest Service in

January, 1943, succeeding the late Ferdinand A. Silcox. A career forester, Mr. Watts has been a member of the Forest Service for nearly 30 years, previously having served as Regional Forester for the Pacific Northwest and as Director of the Northern Rocky Mountain Forest Experiment Station.

GENERAL FOREST SITUATION

The pressing war demand for wood accentuated the need for careful handling of the nation's forest resources. "For more than fifty years," stated the annual report of the Secretary of Agriculture, "the question of the Nation's timber supply has called for solution. With destructive cutting accelerated by the war, and continued exploitation at a rate far in excess of current growth, the problem becomes even more critical.

"Timber shortage is already a reality in many localities." Some formerly active timber-producing regions now have to depend almost entirely on outside sources for their lumber. During the past year when the Nation's need for lumber was so urgent, several large mills have had to shut down, because the sawtimber supply within operating distance had been exhausted. It is significant that the eastern half of the country, which includes three-fourths of our total commercial forest area, now has less saw timber than the six per cent of our forest land in western Oregon and Washington.

"It is most encouraging that a substantial number of timber owners, large and small, have adopted forest management practices looking to a continuing yield of raw material. That timber can be handled profitably under good forest practice is indicated by the fact that many operators are doing so. Those operators who continue to practice sustained yield management, planning their operations in relation to the productive capacity of the forest, are assured of permanence for their industries. The communities dependent upon those industries may look to stability.

"We must not lose sight of the fact, however, that adequate measures to maintain productivity as yet are being applied to only a fraction of our forest lands. By and large . . . the processes of destructive liquidation still prevail.

"One-sixth of America's commercial forest land is now virtually nonproductive. More millions of acres are producing only a fraction of potential capacity. America's forest lands can assure ample and continuous forest products only if sound forest practices are applied. This means that a very material improvement over the general level of present practices must be achieved."

PERIODICAL PUBLICATIONS

Agricultural Education
1714 Locust Street, Des Moines, Ia.
Agricultural Engineering
American Society of Agricultural Engineers, St. Joseph, Mich.
American Agriculturist
Savings Bank Bldg., Ithaca, N. Y.
American Forests
American Forestry Association, 919 Seventeenth St., N.W., Washington, D. C.
American Fruit Grower
1370 Ontario Street, Cleveland, O.
Country Gentleman
Curtis Publishing Company, Independence Square, Philadelphia.
Cotton Trade Journal
Cotton Exchange Bldg., New Orleans, La.
Dairy World
608 South Dearborn Street, Chicago.
Farm Journal
Farm Journal Inc., Washington Square, Philadelphia.
Fishing Gazette
461 Eighth Ave., New York City.
Forestry News Digest
American Tree Association, Washington, D. C.
Hoard's Dairyman
Fort Atkinson, Wis.

Journal of Agricultural Research
Superintendent of Documents, Washington, D. C.

Journal of the American Society of Agronomy
Geneva, N. Y.

Journal of Dairy Science
Ohio State University, Columbus, Ohio.

Journal of Farm Economics
American Farm Economic Association, Menasha, Wis.

Journal of Forestry
Society of American Foresters, Mills Bldg., Washington, D. C.

Pacific Fisherman
71 Columbia Street, Seattle, Wash.

Produce Guide
165 Duane Street, New York City.

Successful Farming
Meredith Publishing Company, Des Moines, Ia.

Wallace's Farmer and Iowa Homestead
1912 Grand Ave., Des Moines, Ia.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Assn. of Nurserymen, P.O. Box 355, Louisiana, Mo.

American Country Life Assn., 297 Fourth Ave., New York City.

American Farm Bureau Federation, 58 E. Washington St., Chicago, Ill.

American Forestry Assn., 919 Seventeenth St., N.W., Washington, D. C.

American Meat Institute, 59 East Van Buren St., Chicago.

American National Livestock Assn., 515 Cooper Bldg., Denver, Col.

American Ornithologists' Union, Ohio State University, Columbus, Ohio.

American Phytopathological Society, Bureau of Plant Industry, Washington, D. C.

American Poultry Assn., 3030 Brady St., Davenport, Iowa.

American Society of Agronomy, Agricultural Experiment Station, Morgantown, W. Va.

American Society of Animal Production, Kansas State College, Manhattan, Kans.

American Society of Equity, 311 Daily Star Bldg., Minneapolis, Minn.

American Society for Horticultural Science, Lock Box 299, Geneva, N. Y.

American Society of Mammalogists, Museum of Zoology, University of Michigan, Ann Arbor, Mich.

American Veterinary Medical Assn., 600 S. Michigan Ave., Chicago, Ill.

Association of Land-Grant Colleges and Universities, c.o. Experiment Station, Lexington, Ky.

Boyce-Thompson Institute for Plant Research Inc., 1086 N. Broadway, Yonkers, N. Y.

Dairymen's League Co-operative Association, Inc., 11 W. 42nd St., New York City.

Farm Women's National Congress, Clarksville, Ia.

International Farm Congress of America, Continental Bldg., Kansas City, Mo.

Izaak Walton League of America, La Salle Hotel, Chicago, Ill.

Jewish Agriculture Society, Inc., 386 Fourth Ave., New York City.

Middle Atlantic Fisheries Assn. Inc., 203 Front St., New York City.

National Audubon Society, 1006 Fifth Ave., New York City.

National Board of Farm Organizations, 1731 I St., N.W., Washington, D. C.

National Dairy Council, 111 N. Canal St., Chicago, Ill.

National Educational and Co-operative Farmers' Union of America, 1731 I St., N.W., Washington, D. C.

National Fertilizer Assn., 616 Investment Bldg., Washington, D. C.

National Grange, 970 College Ave., Columbus, O.

NATIONAL HIGHWAYS ASSOCIATION, Bass River, Cape Cod, Mass.

NATIONAL LIVESTOCK AND MEAT BOARD, 407 S. Dearborn St., Chicago, Ill.

NATIONAL POULTRY COUNCIL, Davisville, R. I.

PEOPLE'S LOBBY, INC., 1410 H Street, N.W., Washington, D. C.

SOCIETY OF AMERICAN FLORISTS AND ORNAMENTAL HORTICULTURISTS, INC., Stevens Hotel, Chicago, Ill.

SOCIETY OF AMERICAN FORESTERS, 825 Mills Bldg., Washington, D. C.

UNITED STATES LIVESTOCK SANITARY ASSN., 33 Livestock Exchange Bldg., Wichita, Kan.

VEGETABLE GROWERS' ASSN. OF AMERICA, c.o. F. L. Allen Co., Philadelphia, Pa.

WOMEN'S NATIONAL FARM AND GARDEN ASSN., INC., Amber, Pa.

DIVISION XII

MINERAL INDUSTRIES

GOLD AND SILVER

By Walter Renton Ingalls
Consulting Engineer, New York City

GOLD

The world's production of gold which attained a maximum of about 41,000,000 oz. in 1940 and held up to nearly that figure in 1941, fell off somewhat in 1942 and again in 1943. In South Africa, whence upward of one-third of the world's production is derived, production both in 1942 and 1943 was kept up nearly to the maximum. In Canada there was a declining rate in both these years, and in the United States even more sharply. This was due to withdrawal of gold miners and their induction into military service. In the United States this was ordered in the latter part of 1942. The lode mines were then given some months of grace in order to adjust their underground conditions, but by the middle of 1943 the total production of gold in the United States had declined to about 110,000 oz. per month, compared with a monthly rate of about 600,000 in 1941.

Of both the domestic and Canadian gold production in 1943 a large part was the by-product gold from copper and lead ores, which naturally will be maintained. In comparison with the personnel engaged in metal mining the number of men associated with the gold mines is relatively few, but of course the gold mines needed materials that it was desired to conserve. In South Africa, where the gold mines are operated mainly with native labor, economic conditions were naturally quite different from what they are in this country and Canada.

SILVER

The world's production of silver in 1940 was about 275,000,000 oz., about half of which was produced in the United States from domestic ores and from foreign ores and base bullion refined here. In 1941 production under these heads fell off a little and in 1942 it fell off a good deal. In so far as the statistics go for 1943, which is through October, the showing is for a sharp decline in American production and a decline not quite so sharp in foreign ores coming to this country for refining. A reason for this declining tendency is the diversion of labor from the operation of silver mines or silver-gold mines. Such considerations do not, of course, affect the production of silver that appears as a by-product in the refining of copper, lead, and zinc ores. The American production of silver in 1943 was about 42,000,000 ounces. There has also been a declining trend in the production of Canada. On the other hand the production in Mexico and South America has been steady.

Statistics published in the early part of 1943 showed that, whereas the industrial consumption of silver (other than for coinage) in the United States was about 30,000,000 oz. per annum up to 1940, in 1940 it was 41,000,000 oz.; 80,000,000 oz. in 1941; and 115,000,000 oz. in 1942. At the end of October it was estimated that the industrial use of silver in 1943 would be about 130,000,000. Increase in the industrial use has been partly under the head of nitrate (reflecting increased photography), partly under the head of sterling silverware (rather strange to say), but the great increase since 1939 has been in alloys for brazing and soldering and for journal bearings, also for costume jewelry and other new uses requiring sterling alloy, and in several ways for electrical work. This does not include the silver for busbars, transformer windings, and other uses under provisions for return of the metal to the Treasury after the war. It is estimated that, of the industrial consumption in the United States in 1942, about 60 per cent was for direct and indirect military purposes.

At the end of 1942 there were about 115,000 tons of silver in the U. S. Treasury stock, of which about 45,000 tons was then unpledged. A bill was signed by the President July 12, 1943 releasing the "free silver" held by the Treasury for civilian use at 71.11c. per ounce. The Treasury estimated its free silver then at 1,252,659,026 oz. (about 43,000 tons), of which 699,819,332 oz. (about 24,000 tons) had been loaned to the Defense Plant Corporation for war projects.

Following the signing of this bill the War Production Board stepped in and restricted the use of silver, both foreign and domestic, to war purposes. However, the enactment of the law of July 12, 1943 gave the Treasury the opportunity to unload a part of its great accumulation of silver bullion either at a profit, or at least at no loss.

IRON AND STEEL

By Edwin F. Cone

Consulting Editor, *Metals and Alloys*

GENERAL

In this review a year ago, the statement was made that "if the war continues through 1943, it is likely that new records will again be recorded in steel and pig iron." This semi-prophecy has been fulfilled; a new high for all time in both pig iron and steel was achieved in 1943. Meeting the needs of a nation at war the steel industry of the United States, for the fourth consecutive year, exceeded all previous records, according to the annual statement of Walter S. Tower, president of the American Iron and Steel Institute.

The production of steel ingots and castings in 1943 was approximately 89,100,000 net tons or nearly 3,500,000 tons in excess of 1942, and 80 per cent greater than the production in the best year of the First World War and about 70 per cent above the estimated 1943 production in Axis Europe and Japan. The entire steel industry was on a war basis for the whole year, continuing its contribution in producing tanks, guns, airplanes, war and merchant ships, and so on.

STEEL OUTPUT AND CAPACITY

Total production of steel in 1943, held down by steel mill strikes in December and by coal strikes earlier in the year, was less than anticipated, according to a statement of the American Iron and Steel Institute. It was about 88,870,000 net tons. A total of 90,000,000 tons had been anticipated. The 1943 output contrasts with 86,029,921 tons in 1942.

A new record for one month's output was made in October when 7,819,061 tons was the total. In that month the industry was operating at 101.3 per cent of capacity. For the entire year the industry's operating rate was 98.1 per cent of capacity, exceeding 100 per cent in several months of the year.

An important development of the year was the increase in capacity. This was substantial. As of the end of the year, the capacity was estimated at close to 94,000,000 tons per year. This is an achievement of distinct importance for it is not easy to operate at close to capacity and still build new furnaces or enlarge old ones, especially under war conditions and scarcity of materials.

PIG IRON OUTPUT AND CAPACITY

As in 1942 there were several new blast furnaces built and old ones enlarged so that pig iron capacity was substantially increased. No data are available at this writing as to the expansion in tons over the capacity as of Jan. 1, 1943. At that time the annual capacity was 64,304,630 net tons; this contrasts with 60,393,980 tons on Jan. 1, 1942, indicating an expansion in 1943 of nearly 4,000,000 tons. Data as to the 1943 production are not yet available, but the total was materially in excess of 1942.

PIG IRON AND STEEL OUTPUT IN NET TONS

Year	Pig Iron	Steel
1943	61,700,000*	89,870,000*
1942	60,903,304	86,031,931
1941	56,686,604	82,839,259
1940	47,398,529	66,982,686
1939	35,677,097	52,798,714
1938	21,460,164	31,751,990
1937	41,582,550	56,636,945
1936	34,752,689	53,499,999
1935	23,937,423	38,183,705
1934	18,075,202	29,181,924
1933	14,947,074	26,020,229
1932	9,835,227	15,322,901
1931	20,637,516	29,058,961
1930	35,562,429	45,583,421
1929	47,727,661	63,205,490
1925	41,104,634	50,840,747
1920	41,357,105	47,188,886

* Estimated.

ALLOY STEELS

There was naturally no abatement in the demand for alloy steel in 1943, and the total again reached new heights. Alloy steels are a vital component of many of the war products. In this review a year ago the 1942 output was estimated at 11,400,000 net tons—official data place the total at 11,526,374 tons, or an increase of about 40 per cent over the 1941 total. Data for 1943 will not be available until later in 1944, but it is the general consensus of opinion that the total will approximate 16,000,000 tons. The following table gives annual production figures since 1928:

Year	Total Alloy Steel	Per Cent of Total Steel
1929	4,432,072	7.01
1930	2,736,508	6.00
1931	1,630,623	5.62
1932	894,436	5.83
1933	1,732,845	6.65
1934	1,805,748	6.18
1935	2,374,017	6.21
1936	3,229,657	6.04
1937	3,396,541	6.00
1938	1,653,510	5.21
1939	3,211,955	6.08
1940	4,965,887	7.41
1941	8,206,129	9.53
1942	11,526,374	13.4

STAINLESS STEELS

There was a decrease in the production of stainless steels in 1942. No data are yet available for 1943. The decrease referred to is probably due in part to the limited supplies of chromium and nickel. According to data collected by the American Iron and Steel Institute, the total stainless steel ingot production for 1942 was 340,780 net tons which compares with 371,984 tons in 1941. There are no estimates of the probable 1943 production but it is likely that the total will approximate that of 1942 or possibly a little larger. Following are the annual figures since 1933:

Year	Total Net Tons
1934	55,905
1935	73,580
1936	101,882
1937	156,618
1938	95,954
1939	179,620
1940	249,980
1941	371,984
1942	340,780

ELECTRIC STEEL

As in 1942, electric steel continued to be an outstanding feature in 1943. Again new records in production were made, and many new furnaces were installed. The 1943 output was approximately 4,621,000 net tons or nearly 647,000 tons in excess of the 1942 output of 3,974,540 tons—a significant expansion. Indicating the trend in this branch of the steel industry, a recent editorial in *Metals and Alloys* is quoted:

"Evidence is rapidly accumulating to show that the American electric steel industry is expanding beyond the expectations of many optimistic observers and that it is assuming a commanding position in the steel industry as a whole . . . In October 1943 a new total output—413,787 net tons—for any month was achieved. This is at the rate of nearly 5,000,000 tons per year or an increase of almost 1,000,000 tons over the 1942 total . . . Authoritative data recently made public show that there are over 700 furnaces making electric steel, both ingots and castings, in the United States. Over 500 of these are reported in steel foundries. In some plants the use of electric furnaces in duplexing and triplexing practice has expanded markedly in the last year or two."

The capacity of the electric steel industry on Jan. 1, 1943 was officially placed at 4,554,980 net tons which compares with 3,737,510 tons on Jan. 1, 1942. As of July 1, 1943, the capacity has been estimated at 4,935,950 tons. By Jan. 1, 1944, this had increased but the official estimate has not yet been announced.

THE N. E. STEELS AND STEEL PLATES

The so-called National Emergency steels continued to gain in favor and in output in 1943. They constituted a major portion of the total alloy steel output of the year. The character of these steels was discussed in this review a year ago. Due to the stupendous shipbuilding program of the nation which gained sharp momentum in 1943, the production of steel plates was very large. The place of converting strip mills to plate producing continued, and the quantity of plates made in these mills expanded over that made in 1942.

CENTRIFUGAL STEEL CASTINGS

A development in the foundry industry which was significant and important in 1943 was the production of steel castings by the centrifugal process. Those foundries that have been making experiments with single units are installing many units. One large foundry in the South now has 72 horizontal axis casting machines and 32 vertical axis machines.

THE OUTLOOK

Again it should be stated that predictions or speculations as to the future are dangerous and often futile. On good authority there are definite indications that military demands for steel in 1944 will be less than they were in 1943. There have already been cutbacks in the production of tanks and small arms ammunition, reflecting possibly a completion of the two programs. There have been cancellations of some steel orders and a few steel furnaces have actually gone out of production, indicating cutbacks in certain programs. Unless there is a decided expansion in the production of steel for civilian use, the indications are that the total steel output for 1944 will be less than in 1943. In fact, the year 1943 may have established a record for some years to come.

NON-FERROUS METALS

By Walter Renton Ingalls
Consulting Engineer, New York

GENERAL

Early in 1942 steps were taken by the War Production Board to increase the production of each of the non-ferrous metals, to economize in the use of them, and to withdraw them from civilian consumption as much as possible. This program was generally effective by the middle of 1942. It meant that many articles like motor vehicles, electric refrigerators, etc. were no longer available for common use. As a military measure the publication of statistics was suppressed.

Of course, many productions, *e.g.*, machine tools, were bound to taper off as all possible needs became filled. Toward the end of 1943 it became clear that even the production of ammunition could safely be curtailed. During December the prohibition of publication of statistics was rescinded. The year 1943 ends with a large accumulation of all of the non-ferrous metals, and the probability that during 1944 they will be released increasingly for civilian consumption.

COPPER

The quantity of copper entering into ammunition as cartridge cups and bullet jackets in 1942 was about 500,000 tons. In 1943 it will probably prove to have been something like 800,000 tons. This will be notwithstanding the extensive production of cartridge cups out of steel and of bullet jackets out of what is called plymetal. About 75 per cent of the ammunition alloy in 1943 came from the commercial mills and the remainder from new plants financed by the Government and operated and managed by the regular producers, which entered into production in the second half of 1942 and came into full production in March, 1943.

In November, 1943, the Army let it be known that it had amply provided itself with ammunition, especially small-arm, and several factories making that class were ordered to suspend operation.

It is clear that the largest part of the domestic copper consumption in 1943 was for ammunition alloy. Copper alloys are required for other military purposes, as also is unalloyed copper as wire, sheet, tube, and otherwise. The quantity of copper allowed for civilian use in 1943 was very small. The American Telephone and Telegraph Company estimated that its use would be no more than 6,000 tons in 1943, whereas the total use for telephones in 1941 was 95,000 tons.

The supply of copper in 1943 to meet the military and civilian requirements was probably something approaching 1,900,000 tons, of which about 700,000 tons may have been obtained by importation, chiefly from Chile and Peru. Production from mines in the United States will probably come to about 1,200,000 tons, compared with 1,100,000 tons in 1942 and 983,000 tons in 1941. A large part of the increase in 1943 was due to the Morenci mine coming into full production. The older mines were already stretched and strained even in 1942. In 1943 they were troubled by shortage of miners. Release of 4,500 soldiers furloughed to mining, of whom the copper mines received about 3,000, which was ordered Sept. 1, has not yet been proved to help very much. In this connection it may be observed that the total number of men employed in copper mining in this country prior to Pearl Harbor was about 21,500, the year's production per man having been about 45.7 tons of pig copper (in 1941), compared with 39.9 in 1939, but in 1942 our domestic production rose to 48.5 tons per man.

During 1941-43 there were important changes in the beneficiation of scrap metal as between the electrolytic refiners and the ingot brass makers. There were drives to reclaim copper and copper alloy from the junk yards; the release of copper and copper alloy frozen in manufacturing processes by discontinuance of some branches of manufacture has been stressed. These, and other subjects, are too complex to be treated in a review so brief as this. It may be mentioned, however, that the immense stocks of copper and copper alloy that are going to be on our hands at the end of this war is a subject of great concern.

LEAD

The new production of lead in the United States in the first ten months of 1943 averaged about 38,000 tons per month as against 41,000 tons in 1942. This decline happened despite the fact that the price for lead in 1942 prevailed at the relatively high figure of 6.5c. per pound New York. The explanation is that high prices had ceased to be a stimulus owing to our lead mines previously having been operated at the maximum of capacity, and owing to the absence of the development of new mines. Operators suffered also from drafting of mine labor into the Army.

The consumption of lead in the United States in 1943 will probably figure to something above 1,000,000 tons compared with about an even 1,000,000 tons in 1942. There was a substantial increase in the use of lead for ammunition in 1943. There were some increases and decreases under other heads. On the whole, however, there has been in lead the least dislocation of the normal channels of consumption.

An immense reserve of lead had been accumulated in 1942 by importation from Australia, Canada, and Mexico. During 1943 there continued to be a large emergency supply in the hands of the Metals Reserve Corporation. The situation in lead during 1942-43 was the easiest among the non-ferrous metals.

TIN

Prior to this war, when it was thought that some day there might be a war and that we ought to be prepared for it, the metal deficiency that was uppermost in mind was tin, whereof we do not produce any and whereof we have no mines that we expect to produce except in trifling quantities, it was arranged to buy from abroad a substantial quantity for stock-piling. Large consumers of tin did the same thing. The result has been that, in respect of this metal as to which we had the most fear, the supply situation has been the easiest.

Contributory to this has been the contracting by the U. S. Government for a large part of the tin ore produced in Bolivia and financing and erecting the Longhorn smeltery in Texas for the beneficiation of it. It has also been possible to import some of the increased production of tin ore and pig tin from Nigeria and Katanga.

Furthermore by the introduction of electroplated steel for canning, etc. the prior use of tin may eventually be divided for that major purpose by some factor that is not yet settled. All of the American tinplate manufacturers have gone into electroplating, which is now believed to be an introduction that has come to stay, with British manufacturers also adopting the new process. For some purposes the use of tin per 100 lb. of steel may be reduced from 1.25 lb. to 0.5 lb., but for certain foods a coating so thin as 0.5 lb. may not be permissible.

The next largest use for tin is for solder, in which by some improvements the tin component is now reduced from about 37.5 per cent to about 20 per cent, which is also believed to be a change that has come to stay. Arbitrarily the use of tin in foil and in collapsible tubes has been reduced, which uses are likely to come back.

It may be that the tin that the Japanese have captured in Malaya and Siam and in Banka and Billiton may not be needed. It may be that the high-cost lode-tin from Bolivia for which we have been paying at the rate of 60c. per pound for tin in ore in Bolivia in comparison with a price of 52c. per pound for pig tin in New York may not be needed.

ZINC

During 1943 there was no addition to the metallurgical capacity of the United States, which at the end of 1942 was estimated at about 1,050,000 tons for spelter, besides a substantial capacity for the production of zinc oxide and other zinc compounds directly from ore. During 1943 the spelter producing capacity was utilized to the utmost. The zinc mines of this country are incapable of supplying such a large metallurgical capacity, and the deficiency was supplied by importation from Canada, Newfoundland, Mexico, and South America, together with some odds and ends from elsewhere.

Shortage of miners played some part in restricting mine production, and the failure of the price of 8.25c., to St. Louis (which normally would be considered a high price) to develop an increase in production confirms the opinion, long entertained, that the zinc and zinc-lead mines of the United States are waning seriously, along with no success in discovering new ore deposits.

A substantial reserve stock of spelter (about 118,000 tons) at the middle of 1943 was accumulated and the previous tenseness in the supply of spelter eased considerably.

A good deal of spelter was exported under lend-lease provisions and otherwise, but domestic consumption was very large. The principal requirement was in connection with copper for cartridge cups and bullet jackets. Consumption for coating iron and steel, which is normally the largest channel, diminished largely. However, most of the articles in which zinc was used were for military purposes, and very little of this metal was available for civilian use. There was, therefore, a broad dislocation of the ordinary channels of zinc consumption.

ALUMINUM

Prior to Pearl Harbor the maximum production of aluminum in the United States was about 310,000 tons. Additions to metallurgical plant have not yet been completed, and estimates vary as to what everything under this head is going to aggregate. The total may be something like 1,100,000 tons, whereof about 500,000 in privately owned plants (Alcoa and Reynolds) and 600,000 in plants owned by the U. S. Government. In July, 1943, the production of the private plants was nearly 39,000 tons, while that of the government plants was about 37,000 tons, indicating that the construction of government plants had not yet been completed, but with the probability that completion would be realized by the end of 1943.

Late in 1942 the price for first-class virgin ingot was reduced to 15c. per pound, while a lower grade suitable for some purposes was offered at 14c.

Prime perplexities are current as to what is going to be done with such an immense production of aluminum, available at so low a price. A partial answer to this question is that the post-war production of aluminum will not be 1,100,000 tons per annum. Many of the constructions on government account will be dismissed as uneconomic. There are also questions as to the supply of ore (bauxite).

It may be that the supply of aluminum produced under commercial conditions will go largely into directions for which low specific gravity is a prime consideration. Many such directions will be in construction and transportation and under the latter head will be included airplanes, which will continue to be made on a large scale for both commercial and military purposes, but as to the latter naturally not so much as during the war.

MAGNESIUM

Plants for the production of magnesium in this country have been built on a scale of 250,000 tons per annum or more. Most of these plants have been financed by the U. S. Government. Their production in the first half of 1943 was about 100,000 tons. The second semester began with a monthly rate of about 17,500 tons (equivalent to 210,000 tons per annum). The War Production Board, in reviewing munitions production in July, stated that the production problem in aluminum and magnesium had been overcome and that efforts were being made to find further uses for magnesium.

While magnesium has become a metal of quantity production, even exceeding the production of nickel, and is quoted at 20.5c. per lb., it is not, so far as is now foreseen, a metal that is likely to become of widespread use except in alloy with other metals. The present use for it in unalloyed form is relatively small and even so is largely military. Its prime use is in alloy with aluminum.

Without any doubt a large part of the magnesium plants that have been built in this country will be scrapped and written off as a part of the cost of the war. In November, 1943 it became clear to the bureaus in Washington that they had been making more magnesium than the aircraft industry could use and curtailment of production became in order and selective closing of some plants.

PETROLEUM

By Robert E. Allen
Director of Information, American Petroleum Institute

WAR AND OIL—GERMANY

Two years of the Second World War have proved beyond dispute that petroleum is now one of the most vital necessities of war. Its essentiality to peacetime living has long been known, but the airplane, tank, jeep, submarine, and battleship of this fully mechanized war are so completely dependent upon oil for their effective functioning and have developed such a gargantuan appetite for petroleum fuels and lubricants that the consumption of petroleum for military purposes has become so astounding as to dwarf all pre-war estimates of oil requirements for the conduct of a full-scale war.

The indispensability of oil in modern warfare is as keenly recognized by the Axis as by the United Nations. German preparations for war included the construction of gigantic synthetic petroleum plants to produce oils from coal; the accumulation of great stocks of petroleum products within Germany; the planning of swift campaigns to seize the oil stores of France, Belgium, Denmark, Norway, Poland, Greece, and the Netherlands; and similar plans to seize the oilfields and refineries of Poland, Rumania, Albania, Russia, Iran, Iraq, and Arabia. The repulse and reversal of the German "Drang nach Osten" by the Russian armies is one of the principal reasons why General Dwight D. Eisenhower has promised European victory for the Allies in 1944.

It has been told that lack of motor fuel caused by the continuous destruction of his supply ships by Allied planes and naval forces was the big contributing factor to the eviction of Marshal Rommel and his legions from North Africa. Now dispatches from Ankara state: "The Germans are attributing their retreats on the eastern front to the lack of fuel oil and admit that the R.A.F. has destroyed three large plants which produced synthetic oil. As the result of the American raid on Ploesti, the Germans are now forced to send crude oil from Rumania to Hungarian and Austrian refineries over single track railway lines." Air supremacy depends upon aviation grade gasoline, and the dwindling oil supplies of Germany now spell the end to any threat of German air control over the coming battlefields of Europe.

WAR AND OIL—JAPAN

In the case of Japan, the campaign plans involving petroleum were more successful, and the oilfields and facilities of the Netherlands Indies have undoubtedly been pushed to their utmost for nearly two years by specially trained Japanese technicians. The accumulation in Japan of petroleum stocks of all kinds for many years prior to Pearl Harbor is so fresh in our national mind as to prompt the recent official suggestion that the United States Government should buy and store hundreds of millions of barrels of essential petroleum products against the demands of the next war when no city of the world will be out of range of fleets of flying battleships.

The defensive war which Japan is now fighting is probably based upon the realization that an all out naval and air campaign, aside from equipment losses, would so squander the carefully conserved oil stocks as to precipitate an early famine of fuel for further fighting. History will probably record that the Axis powers were defeated in the Second World War, not because of lack of manpower, or facilities, or military leadership, but of lack of oil. Attention has been directed principally to the results arising from the Axis lack of oil in order to emphasize the absolutely vital-to-victory part that an adequate supply of all petroleum products required by our armed forces is playing on the side of the United Nations in the titanic conflict that now enters its final and decisive act.

At the close of the First World War, Lord Curzon truly said: "The Allies floated to victory on a sea of oil." The statement that will eventually be made about the importance of oil in the present war will of necessity be much more emphatic and impressive, and it is the realization by the world that petroleum is as vital in war as it is essential in peace that constitutes the greatest single event in petroleum during our two years of war.

HOW OIL WENT TO WAR

To say that the petroleum industry took one stride into war would be scarcely accurate despite the manifold steps that had been taken in common with other industries in preparation for the M day which finally came on Dec. 8, 1941 when an aroused and indignant nation declared war on Japan the day after the attack on Pearl Harbor.

As part of the national preparedness plan, but principally as a part of its steady economic and technological progress, the petroleum industry of the United States, prior to Pearl Harbor, had discovered and developed some 20,000,000,000 barrels of petroleum reserves well scattered through the United States, but concentrated to the extent of over 50 per cent in the state of Texas.

Approximately 385,000 oil wells were producing 4,143,000 barrels of crude oil daily in December, 1941. These wells and others to be drilled in known oilfields had a modest extra capacity that indicated an emergency capacity for the production of 5,000,000,000 to 6,000,000,000 barrels of crude oil, or about 25 per cent of our then known reserves during the four-year war expectancy period following Pearl Harbor. The United States thus had about two-thirds of the known and available oil supply of the world and so became the real oil arsenal of the United Nations. The margin of extra capacity was so slight, however, that it was soon apparent that the utmost efficiency of use would be required if military and civilian demands were not to exceed our domestic supply, thereby forcing curtailment of civilian consumption or the dependence on foreign fields for greater quantities of petroleum than their existing facilities or the disposition of the enemy might make practicable.

It soon became quite clear also that the margin of safety in petroleum production was too scant for comfort, and that every practicable effort must be made to find new reserves of oil at a rate not less than that of our current production if the end of the war was not to confront us with a possible shortage of oil to meet the demands of our peacetime economy. Exploration activities have accordingly been encouraged by the Federal Government and by the industry in every possible way, except that of a substantial upward adjustment of crude oil prices which to date has been steadfastly denied by Federal price control authorities, despite the industry's demonstration of the historical effect of price incentives on discovery and development.

TECHNOLOGICAL PROGRESS IN OIL PRODUCTION

In the refining branch of the petroleum industry sufficient capacity was available at the beginning of the war to process practically all the crude oil likely to be produced from our known reserves but the products which they were able to produce were neither of a quality nor of a quantity sufficient to power the war machine which we had to build. Fortunately, however, the know-how was not lacking; even the plant facilities were deficient for the production of astronomical quantities of 100-octane and other military gasolines, submarine and special navy fuels, aviation and other military lubricants, and butadiene, styrene, cumene, and other critical chemical derivatives of petroleum.

In their constant search for better methods and improved products the research workers of the petroleum industry had perfected many processes for yielding new or greatly improved petroleum products. For example, not one but at least four processes for producing 100-octane gasoline had been developed and were in limited use. However, the 100-octane gasoline that these first plants produced contributed mightily to the winning of the battle of Britain by those gallant few of the Royal Air Force who so nobly merited the Churchill accolade: "Never in the history of human conflict have so many owed so much to so few."

As a result of this technological preparedness the 40,000 barrels daily, 100-octane capacity at the time of our entry into the war was rapidly expanded and re-expanded as each increased military demand was presented, with the result that we are already producing more than five times the initial quantity of 100-octane gasoline, and within a few short months the present production will again be doubled. If all 100-octane gasoline were used for bombing operations our scheduled production would permit the dropping of 20,000 tons of bombs on the enemy every day of the year.

HOMEFRONT PRODUCTION ACCOMPLISHMENT

Here on the homefront the principal accomplishments of the petroleum industry may be baldly stated thus:

1. The drilling of approximately 19,300 new wells for oil and gas, of which about 15,850 were development wells and about 3,450 were exploration wells which, if the discovery rate of the first 10 months continued to the end of the year, probably uncovered something over 500 new sources of oil; 2. The construction and completion of two "Big Inch" pipe lines from Texas to New York and 14 lesser but none the less important pipeline projects to aid oil transportation; 3. The completion or near completion of 72 new plants for the production of 100-octane and other military gasolines, lubricants, and explosives, and for the production of butadiene for synthetic rubber, and in a few months now 122 of these vast new plants will be supplying more than 10 times the amount of 100-octane gasoline that was available at the time of Pearl Harbor and, in conjunction with the alcohol butadiene plants, will comfortably supply enough synthetic rubber for all military and civilian demands; 4. The adjustment of industry operations so as to do more and make more with less manpower and fewer materials and to deliver military requirements on time and as needed while maintaining adequate civilian distribution in the face of almost every possible handicap; 5. The formation of an industry-government partnership for the wartime direction of all petroleum operations, linking the Petroleum Administration for War, headed by Secretary of the Interior Ickes, and the Petroleum Industry War Council of which W. R. Boyd, Jr., president of the American Petroleum Institute, is chairman, the joint operations of which have been extremely successful.

Plain figures tell the story of the drain on our oil fields which in January 1943 actually produced 4,012,200 bbl. daily of petroleum but which are called upon by PAW for 4,707,150 bbl. daily for January 1944, an increase of 14.5 per cent in one year. Texas, which is America's great but not inexhaustible storehouse of oil, has been called upon to supply 2,018,000 bbl. daily in January 1944 as against 1,421,800 bbl. daily produced in January 1943, an increase of 596,200 bbl. daily, or 42 per cent. On the other hand, PAW has allocated only 1,117,000 bbl. daily of gasoline for civilian

WORLD PRODUCTION OF CRUDE PETROLEUM

(In barrels of 42 U. S. gallons)

Year	United States	Rest of World	Total World
1934	908,065,000	613,409,000	1,521,474,000
1935	996,596,000	657,892,000	1,654,488,000
1936	1,099,687,000	691,853,000	1,791,540,000
1937	1,279,160,000	760,071,000	2,039,231,000
1938	1,214,355,000	773,686,000	1,988,041,000
1939	1,264,962,000	820,482,000	2,085,444,000
1940	1,353,214,000	788,732,000	2,141,946,000
1941	1,402,228,000	822,654,000*	2,224,882,000*
1942	1,386,645,000	784,645,000*	2,191,290,000*
1943	1,510,000,000*	746,635,000*	2,256,635,000*

* Preliminary figure subject to revision.

consumption in the first quarter of 1944, a decrease of 38 per cent from the peacetime 1,800,000 bbl. daily available for civilian use.

As a result of the record-breaking petroleum production of the United States in 1943 world production soared to a new high not likely to be materially changed by post-war revision of production estimates of oil producing countries now occupied by the Germans and Japanese. United States production alone amounted to 67 per cent of the world total, although our percentage of the known petroleum reserves of the world is only about 36 per cent.

Significant in this record of U. S. petroleum production is the fact that during the ten-year period 1934-1943 we produced 80 per cent as much crude oil as in the preceding 75 years. Worthy of note also, as representing a distinct production trend, is greater proportionate increase in the production of natural gasoline and related products than in the production of crude oil. This is the natural result of the discovery of a relatively larger proportion of lighter petroleum, as deeper drilling becomes increasingly necessary in the fields of California and the Gulf Coast. The importance of natural gasoline has been greatly

UNITED STATES PETROLEUM PRODUCTION

1934–1943

	Crude Oil Thousand Barrels	Natural Gasoline, etc. Thousand Barrels[+]	Total Petroleum Thousand Barrels	Natural Gas Million Cu. Ft.
1934	908,065	39,556	947,621	2,307,955
1935	996,596	39,333	1,035,929	2,498,005
1936	1,099,687	42,770	1,142,457	2,644,835
1937	1,279,160	49,177	1,328,337	3,032,410
1938	1,214,355	51,347	1,265,702	3,048,200
1939	1,264,962	51,650	1,316,612	3,333,500
1940	1,353,214	55,700	1,408,914	3,694,100
1941	1,402,228	80,855	1,483,083	4,103,500
1942	1,386,645	83,322	1,469,967	4,475,000*
1943	1,510,000*	88,024*	1,598,024*	4,710,000*
10 year Total	12,414,912	581,734	12,996,646	33,847,505
Total Prior	15,690,379	461,174	16,151,553	34,650,500
1859–1943 Total	28,105,291	1,042,908	29,148,199	68,498,005

* Preliminary figures subject to slight correction.

[+] Natural gasoline, etc., includes related products such as liquefied petroleum gases, butane, propane, naphthas, and other liquid hydrocarbons recovered from natural gas.

enhanced by the recovery from it of large quantities of the critical components of 100-octane gasoline, synthetic rubber, and other necessary war chemicals. Natural gas continues to assume a steadily increasing stature as a source of heat and power, although the primary function of the gas produced from oil wells continues to be the production of oil. The 33,847,000,000 cubic feet of natural gas produced in the last ten years may be considered equivalent on a weight and energy basis to about 5,000,000 barrels of liquid petroleum.

Twenty-five years ago the First World War had just ended and great was the credit given to petroleum for hastening the victory. Since that time the automobile and petroleum industries have shared alike in building a new pattern of living for America. A comparison of the petroleum production of 1918 with that of 1943 shows an amazing expansion during the inter-war period for which we are today most grateful, but at the same time very concerned about our petroleum future 25 years hence.

On the face of it, the petroleum production with respect to the known oil reserves of the United States as compared with the rest of the world looks completely inverted, for with one-third of the known world reserves we produced two-thirds of the world's oil in 1943. Such an apparent improvidence is actually the result of the continued upward production trend in the United States without a corresponding discovery of new sources of oil and, on the other hand, the rest of the world has had some sensational oil discoveries in the last decade, particularly in the region surrounding the Persian Gulf, but the war and lack of time to develop producing, refining, and distributing systems have prevented the production of volumes of crude oil proportionate to the new reserves.

This situation has resulted in the focusing of considerable attention on petroleum reserves as a vital factor of national security and at the end of the year the Federal Government through the Petroleum Reserves Corporation was engaged in discussions with the Petroleum Industry War Council looking toward the formulation of a long-range national oil policy and a determination of the degree, if any, to which the Government might participate in the acquisition and development of adequate petroleum reserves and the extent to which it should support United States oil companies in their continued campaigns to discover and develop new oilfields in the far corners of the world.

PETROLEUM IN TWO WARS

	1918	1943	Per Cent Increase
Oil Producing States	18	25	
Producing Oil Wells	195,000	409,000	109.5
Producing Gas Wells	40,300	59,500	47.5
Crude Oil Production (barrels)	356,000,000	1,510,000,000	324.5
Natural Gasoline Production (barrels)	6,725,000	88,000,000	1207.5
Total Liquid Petroleum (barrels)	362,725,000	1,598,000,000	341.5
Natural Gas Production (mcf.)	945,000,000	4,710,000,000	398.5
Known Crude Oil Reserves (barrels)	6,500,000,000	21,000,000,000	223.0
Oil Reserve Production Ratio	18.25	13.90	
Known Natural Gas Reserves (mcf.) (Natural Gas Fields only)	15,000,000,000	110,000,000,000	634.0
Gas Reserve Production Ratio	15.90	23.35	

The shortage of steel and other materials as well as manpower continued to limit drilling operations in 1943, with the result that only 60 per cent as many wells were drilled in 1943 as in 1941. Another contributing factor to the decline in drilling was the unstimulating price basis which prevailed. This combination of cir-

THE WORLD'S PETROLEUM ACCOUNT

(January, 1944)

Continent and Country	Known Reserves Remaining Jan. 1944		1943 Production[4]	
	Million Barrels	Per Cent of Total	Million Barrels	Per Cent of Total
North America[1]				
Canada	165[4]		10.1	
Mexico	650		35.0	
United States	21,000	33.20	1510.	66.90
Other North America	5		.....	
Total[1]	21,820	34.50	1555.1	68.90
South America				
Argentina	250		24.0	
Bolivia	50		0.3	
Brazil	10		0.3	
Colombia	550		13.5	
Ecuador	30		2.5	
Peru	200		14.6	
Trinidad	370		22.0	
Venezuela	6,500		182.3	
Total	7,960	12.55	259.5	11.45
Europe				
Albania	20		?[6]	
Austria	50		?[5]	
Czecho-Slovakia	8		?[5]	
France	6		?[5]	
Germany (Old Reich)	90		11.0[5]	
Hungary	80		6.5	
Italy	1		0.7[6]	
Poland	45		?[5]	
Rumania	465		36.5	
U.S.S.R.[2]	10,500		237.3	
Other Europe	15		1.0	
Total[2]	11,280	17.85	293.0	12.97
Asia				
Bahrein Island	180		7.3	
British India	50		2.5	
Burma	100		0.5	
China	20		0.7	
Iran	9,000		75.0	
Iraq	4,500		25.3	
Japan	25		3.8[7]	
Netherlands East Indies	1,250		18.3	
Sakhalin[3]	10		4.0	
Sarawak and Brunei	15		?[7]	
Saudi Arabia	7,000		5.5	
Total[3]	22,150	35.00	142.7	6.28
Africa				
Egypt	75		9.1	
Other Africa	10		.4	
Total	85	0.15	9.5	0.40

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[1] Includes Central America.
[2] U.S.S.R. production in Asia, excepting Sakhalin, included in Europe.
[3] Exclusive of Athabaska Tar Sands.
[4] Preliminary, subject to revision.
[5] Includes Austria, Czecho-Slovakia, France, Poland.
[6] Includes Albania.
[7] Includes Brunei and Sarawak.

THE WORLD'S PETROLEUM ACCOUNT (Continued)

Continent and Country	Known Reserves Remaining Jan. 1944		1943 Production	
	Million Barrels	Per Cent of Total	Million Barrels	Per Cent of Total
Australia	5		0.0	
World Total	63,300	100.00	2,259.8	100.00
Total Outside U. S.	42,400	66.80	749.3	33.10

WELLS COMPLETED IN THE UNITED STATES

Year	Oil	Gas	Dry	Total
1934	12,520	1,368	4,309	18,197
1935	15,108	1,401	4,911	21,420
1936	18,523	2,070	5,297	25,890
1937	23,839	2,676	6,560	33,075
1938	19,286	2,066	6,141	27,493
1939	19,045	2,198	6,474	27,717
1940	21,072	2,352	6,617	30,041
1941	21,918	3,007	7,128	32,053
1942	12,252	2,068	5,504	19,824
1943*	11,200	1,850	6,250	19,300

* Preliminary, subject to revision.

cumstances led to the selective drilling of the more productive locations of better economic possibilities, with the result that the new production developed was a considerably higher percentage of the possible maximum than the number of completed wells would indicate.

CRUDE OIL IN STORAGE AT END OF YEAR

(In barrels of 42 gallons)

Year		Year	
1934	337,254,000	1939	239,978,000
1935	314,855,000	1940	264,709,000
1936	288,579,000	1941	247,499,000
1937	306,826,000	1942	234,889,000
1938	274,958,000	1943*	241,400,000

* Preliminary, subject to revision.

The above-ground stocks of crude oil have, in general, shown a steady downward trend since 1930 when a peak figure of 428,445,000 barrels of crude oil was held in storage as the result of large flush production during the two previous years. A nominal increase of about 6,000,000 barrels of crude oil in storage occurred in 1943 in anticipation of increased refinery runs as several new refineries go on stream early in 1944. Much of the empty storage capacity has been cut down and refabricated into other types of equipment to ease the steel stringency of the past two years.

CRUDE OIL PRICES

(Per barrel of 36 deg. A.P.I. gravity Oklahoma-Kansas oil)

Year	High	Low
1934	$1.00	$1.00
1935	1.00	1.00
1936	1.10	1.00
1937	1.22	1.10
1938	1.22	1.02
1939	1.02	1.02
1940	1.02	1.02
1941	1.17	1.02
1942	1.17	1.17
1943	1.17	1.17

Despite the continued pleas of the petroleum industry, which were backed by Petroleum Administrator Ickes and supported by Congressional action, crude oil prices remain frozen at virtual pre-war levels. It has been the contention of the industry that exploration activity would be greatly stimulated; that the production of oil from marginal wells would be maintained, and that the secondary recovery of large volumes of otherwise economically irrecoverable oil would become possible if crude oil prices were based on parity with other commodities. Price-control authorities, while approving sporadic increases, steadfastly declined to approve a general increase, and proposed subsidies instead.

CAPACITY OF U. S. REFINERIES

(Operating, shut-down, and building, as of Jan. 1)

Year	Capacity (barrels per day)	Year	Capacity (barrels per day)
1935	4,072,400	1940	4,721,213
1936	4,163,946	1941	4,860,194
1937	4,376,081	1942	4,999,999
1938	4,373,701	1943	5,135,000*
1939	4,650,805		

* Preliminary, subject to revision.

The tremendous expansion and improvement of refinery facilities since 1941 has been required by the urgent and unprecedented demand for petroleum war products, of which 100-octane gasoline is only one of many. This complete modernization of nearly all of the larger refineries of the United States will represent an investment of nearly $900,000,000 when completed, more than 75 per cent of which has been borne by the refining companies without governmental assistance.

CRUDE OIL RUN TO STILLS

(In barrels of 42 gallons)

Year	
1934	895,636,000
1935	965,790,000
1936	1,068,570,000
1937	1,183,440,000
1938	1,165,015,000
1939	1,237,840,000
1940	1,294,162,000
1941	1,409,192,000
1942	1,334,103,000
1943*	1,430,000,000*

* Preliminary, subject to revision.

As was to be expected, runs of crude oil to stills eclipsed all previous records in 1943 in the successful effort of the oil industry to meet every military requirement for petroleum products. Refinery operations as the year ended indicate that the volume of crude oil run to stills in 1944 will soar to new heights, as will the production of military gasolines, navy fuels, and synthetic rubber.

MOTOR FUEL PRODUCED IN U. S.

(In barrels of 42 gallons)

Year		Year	
1934	423,801,000	1939	611,043,000
1935	468,021,000	1940	616,695,000
1936	516,266,000	1941	701,294,000
1937	571,727,000	1942	608,900,000
1938	569,162,000	1943*	611,200,000

* Preliminary, subject to revision.

The production of motor fuel in the United States in 1943 not only fell far below the 1941 pre-war record year, but a much larger percentage of the amount produced went to supply the demands of war, leaving the amount remaining available for civilian use doubly reduced in quantity as well as in quality, for the high grade military gasolines require the "cream" of the gasoline in order to assure the vital superior performance.

Although the production of motor fuel in 1943 showed a sharp decrease in 1943 from 1941, the production of all fuel oils showed a natural and cor-

GAS OIL AND FUEL OIL PRODUCED IN U. S. REFINERIES

(In barrels of 42 gallons)

Year	Gas Oil and Distillates	Residual Fuel Oil	Total Fuel Oil
1934	94,972,000	240,381,000	335,353,000
1935	100,235,000	259,826,000	360,061,000
1936	125,906,000	287,968,000	413,874,000
1937	146,706,000	312,064,000	458,770,000
1938	151,774,000	294,890,000	446,664,000
1939	161,746,000	305,944,000	467,690,000
1940	183,304,000	316,221,000	499,525,000
1941	189,177,000	342,367,000	531,544,000
1942	196,714,000	358,901,000	555,615,000
1943*	211,650,000	417,200,000	628,850,000

* Preliminary, subject to revision.

responding increase. The fuel oil needs of the Navy and merchant marine increased directly with the launchings from our shipyards. However, the shortage of civilian fuels on the Atlantic Seaboard resulted not so much from the great military demands as from the shortage of transportation facilities, which was largely remedied by the end of 1943 with the completion of a new pipeline system and the continued use of as many as 80,000 oil tank cars.

INDEX OF WHOLESALE PRICES

(1926 = 100)
(U. S. Bureau of Labor Statistics)

Year	Petroleum Products	All Commodities
1936	57.3	80.8
1937	60.5	86.3
1938	55.9	78.6
1939	52.2	77.1
1940	50.0	78.6
1941	57.0	87.3
1942	59.8	98.8
1943*	59.8	112.4

* Preliminary, subject to revision.

Very few basic commodity prices other than petroleum have remained frozen at virtual pre-war levels. The marginal operators of the high cost wells that comprise nearly three-fourths of the country's 409,000 wells feel that a frozen price for increasingly expensive production is preventing the production of considerable quantities of crude oil that otherwise remains unproduced.

MOTOR FUEL PRICES, TAXES, AND COSTS

Year	Average Retail Price	State and Federal Taxes	Average Total Cost Per Gallon to Consumer
1920	$.2974	$.0009	$.2983
1925	.2009	.0211	.2220
1929	.1792	.0350	.2142
1933	.1241	.0541	.1782
1936	.1410	.0535	.1945
1937	.1458	.0540	.1998
1938	.1407	.0544	.1951
1939	.1331	.0544	.1875
1940	.1275	.0566	.1841
1941	.1330	.0593	.1923
1942	.1446	.0597	.2043
1943	.1456	.0597	.2053

Since 1940 the average cost of gasoline to the consumers has been trending gradually upward as the result of more expensive transportation and distribution costs. Transportation costs have been higher because of the great volumes of crude oil amounting to more than 800,000,000 barrels that have been moved by tank car rather than by the low-cost tankers which were one of the first great casualties of the war. Distribution costs to civilians have trended higher

ESTIMATED ANNUAL COST OF MOTOR FUEL AND TAXES PER CONSUMER

(based on average number of motor vehicles in use each year)

Year	Annual Consumption Per Vehicle (gallons)	Cost of Fuel	Cost of Taxes	Total Cost to Consumer
1920	500	$148.70	$ 0.45	$149.15
1925	502	100.85	10.59	111.44
1929	619	110.92	21.67	132.59
1933	625	77.56	33.81	111.37
1935	677	91.73	35.81	127.54
1937	721	105.12	38.93	144.05
1938	701	98.63	38.13	136.76
1939	733	97.56	39.88	137.44
1940	752*	95.88	42.56	138.44
1941	800*	106.40	47.44	153.84

* Preliminary, subject to revision.

because of the reduced quantities available for distribution to civilians without proportionate reductions in fixed over-all costs. The 35-cent a barrel increase in crude oil prices, which was urged to assure a continuing supply, if spread equally over all petroleum products, would mean approximately one cent a gallon increase in gasoline prices which would be equivalent to only about one-sixth of the average tax paid on gasoline.

Despite the effect of rationing in reducing civilian consumption of gasoline, and the collection of taxes therefrom, increased corporate taxes to some degree offset what would otherwise have been a material decline in taxes collected from the petroleum industry and its customers, and, as a result, petroleum still remains as one of the largest sources of tax revenue in the United States.

PETROLEUM TAXES

Year	Total Taxes
1934	$1,046,149,675
1935	1,121,936,698
1936	1,183,147,498
1937	1,315,487,798
1938	1,286,114,473
1939	1,354,166,333
1940	1,523,693,000
1941	1,807,146,000
1942	1,786,338,797
1943	1,592,500,000*

* Preliminary figure.

PERIODICAL PUBLICATIONS

American Gas Journal
53 Park Place, New York City.
American Mineralogist
Mineralogical Society of America, Washington, D. C.
Chemical and Metallurgical Engineering
330 West 42nd Street, New York City.
Coal Age
330 West 42nd Street, New York City.
Engineering and Mining Journal
330 West 42nd Street, New York City.
Fueloil Journal
420 Madison Ave., New York City.
Iron Age
100 East 42nd Street, New York City.
Metal Finishing
116 John Street, New York City.
Metal Progress
7301 Euclid Ave., Cleveland, O.
Metals and Alloys
330 West 42nd Street, New York City.
Mining and Metallurgy
29 West 39th Street, New York City.
National Petroleum News
1213 West Third Street, Cleveland, O.
Natural Gas
4 West Seventh Street, Cincinnati, O.
Oil and Gas Journal
211 South Cheyenne Street, Tulsa, Okla.
Oil Weekly
3301 Buffalo Drive, Houston, Tex.
Petroleum Engineer
701 Allen Building, Dallas, Tex.
Petroleum World
412 West Sixth St., Los Angeles, Calif.
Steel Facts
350 Fifth Ave., New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 979, Tulsa, Okla.

AMERICAN GAS ASSN., 420 Lexington Ave., New York City.

XII. MINERAL INDUSTRIES

AMERICAN INSTITUTE OF MINING & METALLURGICAL ENGINEERS, 29 W. 39th St., New York City.

AMERICAN IRON AND STEEL INSTITUTE, 350 Fifth Ave., New York City.

AMERICAN MINING CONGRESS, 841 Munsey Bldg., Washington, D. C.

AMERICAN PETROLEUM INDUSTRIES COMMITTEE, 50 W. 50th St., New York City.

AMERICAN PETROLEUM INSTITUTE, 50 West 50th St., New York City.

AMERICAN ZINC INSTITUTE, 60 E. 42nd St., New York City.

DIVISION XIII

MANUFACTURES AND TRANSPORTATION

CONDITIONS IN MANUFACTURING

By L. Seth Schnitman
Consulting Economist

RECORD WAR PRODUCTION

Upsetting historical precedent, industrial output in 1943 again—for the fourth year in succession—scaled all previous records. Never before have our mines and factories together turned out products in such volume; never previously have they been able to exceed earlier peaks of production for more than two consecutive years; not ever, while establishing an annual succession of new peaks, has their combined output been on an uptrend for five full years. Concurrently at work, men, machines, and money have written a saga of ant-like activity that for years to come could serve to belie the theory of economic saturation and to warn the world of the continued might that is America when once moved to action.

If it took a three-dimensional global struggle to awaken American industry to its potentialities come victory and a just peace; if it took an all-engulfing holocaust to teach bandit nations finally and unequivocally that a peace-loving people, amid other contradictions, may at the same time be outwardly soft and inwardly hard as steel, then the price of war with all of its sweat and tears has not come too high. Production for war and output in peace, however, in the past unfortunately have been two things apart. No better way exists for delineating the contrast than by reference to the index of industrial production (manufacturing and mining) of the Board of Governors of the Federal Reserve System.

INDEX OF INDUSTRIAL PRODUCTION

For 1943, when industrial employment and over-all purchasing power concurrently scaled all earlier totals, this index showed that together our mines and factories produced 112 per cent more goods than in the peak year of peacetime, 1937; 117 per cent more than in the previous peacetime peak year, 1929; 139 per cent more than the average for the five-year peacetime period, 1935-1939; 223 per cent more than the average for the five-year depression period, 1930-34; and 312 per cent more than in the bottom year of depression, 1932. In these astounding production gains are to be found possibilities of transcending significance, the more so when viewed against the probabilities of the nearer future.

In their very figures are written the story of deceleration which always in the past has been the prologue to reversal. As if to say that production for war is approaching the optimum; as if to indicate that victory on the battlefronts is near at hand; that the test of the capacity of our economic mechanisms painlessly to convert to peace can not be far off; the index of industrial production for 1943 showed the smallest percentage gain over the previous year than for any year since 1940.

The 1943 gain was 20 per cent; the gain in 1942 over the previous year was 23 per cent; the increase in 1941 over 1940 output amounted to 30 per cent.

For what they may be worth as guides to coming events on the industrial horizon here are some additional facts: (1) never during the quarter-century since the First World War has there been a period of consecutive annual production gains that has extended for more than five years; (2) not even in the emergence from the last major depression were the year-to-year percentage gains, from much lower levels than have obtained during the war years, so high as they have been since 1940, and; (3) only in the emergence from the 1920-21 depression when the level of output was generally about one-third of what it was in 1943 were the percentages of year-to-year gain of the same order of magnitude as those seen in the period 1941-43. It may be that what happened in 1924, in kind may happen in 1944. It may be that just as the declining gains over the preceding year's output of 26 and 21 per cent, respectively, for 1922 and 1923 were followed in 1924 by a decline of 7 per cent, the descending rates of increase for 1942 and 1943 may portend a decrease in output in 1944 from 1943.

For manufacturing alone the 1943 production record was even more striking than that shown for the combined index. Besides recording a reading higher than any ever seen before, the index for manufacturing output in 1943 was: (1) 22 per cent higher than for 1942; (2) about 54 per cent greater than for 1941; (3) 158 per cent higher than the average for the five-year period, 1935-1939; (4) about 353 per cent above the level of the worst year of depression, 1932, and; (5) virtually 135 per cent higher than the lush year, 1929. Since 1940 the largest annual percentage gain over the previous year's manufacturing index was shown for 1941; for that year the increase was 33 per cent. Indicative of the deceleration that has set in since then in manufacturing industries, are the progressively smaller percentages of gain shown for 1942 and 1943, 26 and 22 per cent, respectively.

DURABLE MANUFACTURES

It was, however, in the so-called durable goods industries, apart from other manufactures, that the most significant clues to the effects of war and the requirements of peace may be found. Durable goods manufacturing output in 1943 not only exceeded all previous tops but also, in recording a reading of 360 (1935-1939=100), the index was 29 per cent higher than for 1942, 79 per cent greater than for 1941, 260 per cent higher than the average for the five-year period, 1935-1939, nine times the level recorded for 1932, and virtually 2¾ times the 1929 level, a benchmark of high industrial activity.

Moreover, the 1943 index of durable goods manufacture, inclusive of such basic industries as iron and steel, lumber, machinery, non-ferrous metals, stone, clay and glass products, aircraft, shipbuilding, automotive equipment, exhibited decelerative characteristics even more revealing than those already discussed. The 1943 gain of 29 per cent over the preceding year's index contrasts with 39 and 45 per cent for 1942 and 1941, respectively. Further evidence indicating that durable goods production may be topping out can be found in the fact that the December, 1943 index was but 14 per cent higher than was recorded for December 1942.

NON-DURABLE MANUFACTURES

The unexampled volume of production of durable goods in 1943 was accompanied by further expansion in the output of non-durable manufactures, of textiles and their products, leather and its products, manufactured food products, and other manufactured items for ready consumption. All the same, even in this sphere of activity, where limitations on production exerted something of a pegging influence, the annual increases in recent years were at progressively lower rates. The increase for 1943 over 1942 was 11 per cent; for 1941 over 1940, it was 23 per cent; for December, 1943, over the corresponding month of the previous year, it was but a scant 7 per cent. Other interesting points emerge from a study of this index: (1) the 1943 reading was 72 per cent above the level for the peace-time peak year, 1937; (2) about 133 per cent above the index for the previous peacetime peak year, 1929; (3) 77 per cent higher than the average production in the five-year period, 1935-1939; (4) 124 per cent above the average for the five-year depression period, 1930-1934, and; (5) 153 per cent higher than the index recorded for the bottom year of depression, 1932.

MINE OUTPUT

It was in the 1943 record of combined production by our mines, copper, silver, coal, iron, petroleum, lead, zinc, and gold, that the condition of deceleration had greatest incidence and hence greatest significance for the future. This was because it is the mines, among other primary sources of production, that supply the raw materials which, when fashioned in our factories, become the essential products for modern warfare on the one hand and the items of daily civilian use on the other.

For 1943, the index of mining production showed a gain over the previous year of less than 1 per cent; the increase for 1942 over the previous year was 3 per cent; the 1941 gain was 7 per cent; the 1940 increase over the previous year's index was 10 per cent. Contrast these gains with those for either the industrial production (mining and manufacturing combined) index or for the manufacturing index alone or for that matter its major components, *i.e.* the durable goods index and the index for non-durable manufactures, and at once it is apparent that a directional change is in the making for industrial production as a whole. In the meantime, it should be noted that though the increase in mining output in 1943 over 1942 was exceedingly small, the index, in registering a new high point, was 16 per cent above the level for the peace-time peak year, 1937; 23 per cent above the index for the previous peace-time peak year, 1929; 30 per cent higher than the average for the five-year period, 1935-1939; and virtually twice as high as for the bottom year of depression, 1932.

RELATIONSHIPS BETWEEN DURABLE AND NON-DURABLE MANUFACTURES

For some years it has been possible, with increasing benefit, to measure the relationships between the manufacture of durable and the output of non-durable manufactures. In these relationships are to be found the evidences of unbalance in manufacturing activity generally that in the course of time is corrected. In the final analysis, durable goods manufactures, in a freer economy than obtains under wartime conditions, must exchange for non-durable manufactured goods. When the volume of physical production of one is higher relatively than the other, something is bound to give way.

As may be seen from the table below, the ratio between the indexes for these two classes of manufactured goods reached a new all-time high in 1943. Unity, or 1.00, may be said to represent a true balance; a ratio below 1.00 may be said to be subnormal, while a ratio above 1.00 may be classed as abnormal. At 2.03 for 1943 the ratio, it will be seen, is twice unity and indicates the extension of the unbalance that has been in evidence since 1939. Always, in more ordinary times than these, when the ratio has been too far from unity, one way or the other, it has foreshadowed a relatively imminent change in the direction of the trend of manufacturing and even industrial production; the longer such unbalance continued the more certain has been the consequent reaction, either upward or downward.

Consider the ratios for 1919 and 1920, they were followed in 1921 by a downward reversal in production, or consider the ratios for 1928 and 1929 which likewise foreshadowed a decline in production. Consider, on the other hand, the ratios for 1931 and 1932, which, being below unity, portended the upward reversal in the production curve for 1933, or the low ratio for 1938 which foreshadowed the rise in production that has continued ever since. Danger lurks in the 1943 ratio of 2.03, danger that our production plant may not be able to cope with the implications for 1944 or perhaps 1945, for now even the rate of rise in the ratio has decelerated: 25 per cent in 1942, only 15 per cent in 1943.

PRODUCTION INDEXES FOR DURABLE AND NON-DURABLE MANUFACTURES*

(1935–1939 Average = 100)

Year	Durable	Non-durable	Ratio: Durable / Non-durable
1919	84	62	1.35
1920	93	60	1.55
1921	53	57	.93
1928	117	85	1.38
1929	132	93	1.42
1930	98	84	1.17
1931	67	79	.85
1932	41	70	.59
1933	54	79	.68
1934	65	81	.80
1935	83	90	.92
1936	108	100	1.08
1937	122	106	1.15
1938	78	95	.82
1939	109	109	1.00
1940	139	115	1.21
1941	201	142	1.41
1942	279	158	1.77
1943	360	177	2.03

* Basic data, as revised in 1943, from Board of Governors of Federal Reserve System. Ratios for selected specified years computed by the author.

FOOD PRODUCTS

The army still travels on its stomach, ample proof being given by the index of production of manufactured foodstuffs. For 1943, this index, exceeding the 1942 level by almost 7 per cent, topped all previous peaks. Reflecting the enlarged demands for the military and the increased appetites of our civilian population despite the restrictions of a wartime economy, the 1943 output of manufactured foods was 39 per cent greater than in the peak peacetime year, 1937; 43 per cent greater than the average for the five-year period, 1935-1939; and 81 per cent higher than in the depression year, 1932.

Not all manufactured foods shared to the full in this general advance. Wheat flour production in 1943, though almost 6 per cent greater than in 1942 and about 13 per cent higher than the average for 1935-1939, was lower than in 1929. Butter production in 1943 was 3 per cent smaller than in 1942 and lower, as well, than in any of the years in the period, 1938 to 1941, inclusive. Cheese production in 1943 was some 11 per cent smaller than in 1942; on the other hand, except for 1942, the 1943 production of cheese was highest on record, exceeding by 50 per cent the average for the five-year period, 1935-1939. Correspondingly, the production of canned and dried milk recorded similar contradictions in 1943, loss from 1942 but large gains over all other previous years.

Meat packing as a whole showed a new high in production for 1943, exceeding by almost 14 per cent the previous peak recorded in 1942 and the average for the five-year period, 1935-1939, by some 68 per cent. This was accomplished only because the 1943 gains in pork and lard and in lamb and mutton output were more than sufficient to counteract losses in beef and veal production. Other manufactured foods, considered as an entirety, were produced in larger volume in 1943 than ever before in history. The gain over 1942 amounted to about 7 per cent; the increase over the average for the five-year period, 1935-1939, amounted to 43 per cent. Processed fruits and vegetables alone, however, were produced in slightly lower volume than in 1942, which itself showed a loss from 1941; nonetheless, the 1943 total was some 22 per cent above the average for the five-year base period.

CONFECTIONARY, LIQUOR, TOBACCO

The output of confectionary reached a new high point in 1943; besides being 9 per cent higher than in 1942, the previous peak year, the 1943 total was 39 per cent ahead of the average for 1935-1939. Yet there was not enough candy, or for that matter chewing gum and soft drinks, to go around to satisfy both the military and civilian population. The production of malt liquors, likewise, broke all earlier records while whiskey became a complete casualty of war, legal production of which was completely stopped in November, 1942.

Tax-paid withdrawals of cigarettes, indicative of consumption, were never higher. Despite a gain of virtually 8 per cent over 1942, the 1943 volume was barely sufficient to meet the demands. Cigar production, which in 1942 was greater than in any other year since 1929, suffered a setback in 1943 of 16 per cent, chiefly because of lack of tobacco; as the year wore on it became increasingly difficult to obtain the favorite brands, even as was true with cigarettes.

TEXTILES, SHOES, APPAREL

The production of textiles and their products in 1943 was about 2 per cent smaller than in the previous year, the year of greatest production in history. Several important reasons accounted for the decline in textile production, among which were manpower losses to the service and to other industries, replacements for which, if obtainable at all, were generally less efficient. Nevertheless, the 1943 textile production total was some 54 per cent above the volume averaged for the five-year period, 1935-1939.

As a result of the curtailment in production, the supply situation became even tighter in 1943, especially in cotton and rayons; nor did the production of new synthetic fibers reach a volume of sufficient magnitude to break the jam. Chiefly because of manpower shortages and machine breakdowns, the consumption of cotton sustained a decline from 1942 in excess of 5 per cent; rayon deliveries to consuming plants, however, scored a new record, exceeding the previous peak (1942) by about 5 per cent. The 1943 consumption of apparel wool exceeded the 1942 top by slightly more than 7 per cent and was about 114 per cent higher than the average for the five-year period, 1935-1939. Woolen yarns were produced in larger volume than in any previous year but worsted yarns not only failed to scale the level of the previous year but fell short of the 1942 figure by about 4 per cent.

Though the tight supply situation as to textiles may be expected to carry well into 1944, war or no war, it is well here to indicate that in general the textile industries are not faced in the conversion period with the problem of excess capacity. This fact should materially ease the period of transition and compress it into a space of weeks and not months as may well be the case in other industries. To illustrate, the output of cotton goods during the war years has reached 12,000,000,000 yards and this with virtually 7,000,000 fewer spindles than a decade ago, thanks to the early introduction of the 24-hour three-shift workday.

Leather and leather products generally suffered a production loss in 1943 which amounted to about 6 per cent. Shoe production receded further from its all-time peak established in 1941; the decline from 1942 amounted to about 3 per cent. Of the principal leathers, only sheep and lamb leather was able to register a production gain in 1943 over the previous year; the increase amounted to about 11 per cent; cattle leathers, on the other hand, suffered a decline of 16 per cent, while the losses from 1942 for calf and kip leathers and goat and kid leathers amounted to 5 and 8 per cent, respectively.

PETROLEUM AND REFINERY PRODUCTS

Crude petroleum production in 1943 increased 6 per cent over the output of the preceding year and thus scaled the previous peak, established in 1941. This gain in output was accomplished despite a shrinkage of some 65 per cent in the number of new producing oil wells completed when contrasted with the total of about 31,000 brought in during the peak pre-war year. Thanks to the decline of the submarine menace, the petroleum supply situation has been improved by increased imports of South American crude.

Gasoline output was only fractionally above the total for 1942; fuel oil production registered a new high; lubricating oil sustained a slight loss; while kerosene showed an increase of about 6 per cent. The output of 100 octane gasoline in 1943 was more than eight times the total of the pre-war average, in large part made possible by large-scale conversions of the nation's principal oil refineries.

With the coming of peace, aviation fuel should be much lower in price, a force that should tend to stimulate peacetime aviation which in turn should make easy the utilization of the present capacity for 100 octane production. If there is an enigma in the petroleum refining field for the reconversion period, it probably lies in the question of what to do with the facilities that have been constructed for producing butadiene, one of the ingredients of synthetic rubber, and for producing toluol, an ingredient of TNT. That synthetic rubber will have a growing importance in our peacetime economy there can now be no denying; that it can, however, replace natural rubber is still a much mooted question.

PAPER AND PAPER PRODUCTS

Among war's industrial realignments, the paper and paper products industries continued further to pay the toll. Though production in 1943 was only fractionally below the combined output in 1942 for these industries, a loss from the peak output in 1941 was recorded, amounting to about 6 per cent. Manpower shortages and diversions of raw materials to more essential uses had much to do with this decline in paper production in the face of a demand that was never greater.

Paper and pulp alone suffered a combined shrinkage from 1942 of about 3½ per cent and from 1941 of 7 per cent; for pulp the loss from 1942 of 14 per cent was even more striking. Paperboard production, in large part due to success of the waste-paper salvage program, recovered from the 1942 decline by some 4 per cent but was lower than in 1941 by about 5 per cent. The gain in paperboard, production of which is largely used in the manufacture of containers, sharply contrasts with the 1943 increase of 18 per cent to a new all-time high in the output of glass containers.

Other papers, such as fine, printing, tissue and absorbent, wrapping, and newsprint sustained production losses from their respective volumes of 1942; the greatest decline, because of progressively more stringent curtailment orders of the War Production Board, occurred in newsprint for which the 1943 production cutback amounted to some 15 per cent. As the year drew to a close newspapers everywhere were beginning by various means to gear themselves for even smaller supplies of newsprint.

CHEMICAL AND OTHER PRODUCTS

All the while the output of chemical products, understandably enough, moved on during 1943 to new high levels of production; the year's total was 39 per cent greater than in 1942 and 287 per cent higher than the average for the period, 1935-1939. Paint production recovered part of the loss incurred in 1942 from the 1941 peak but soap output slipped further in 1943 to a level that was almost 13 per cent lower than in 1941. Rubber products forged in 1943 a new link in the chain of unbroken annual output records that has been in evidence since 1938. The gain over 1942 alone amounted to more than 31 per cent.

ELECTRICAL UTILITIES

War needs for power were again well met in 1943 despite coal strikes. Electric utility companies produced in 1943 about 221,000,000,000 kilowatt hours of electric current, not only a new high record but also a gain of about 75 per cent since 1939. Even home use of electricity increased 7 per cent over the 1942 demand to a new high figure, despite complete cessation in the manufacture of household electrical appliances and vanishing appliance supplies in the hands of dealers.

At the 1943 year-end the generating capacity of the industry was about 50,000,000 kilowatts, a gain of about 11,000,000 kilowatts in five years. Since an important part of this increased capacity was necessitated by the needs for electrical energy on the part of our expanded metallurgical industries, such as magnesium, ferro-alloys, electric steels, and aluminum, only an increased domestic load can soften the shock that lies ahead in the conversion period.

RAILROADS AND RAILROAD EQUIPMENT

Like the electric power companies, the railroads of the nation handled in 1943 the greatest volume of traffic, both freight and passenger, in all history. The freight load approximated 725,000,000,000 ton-miles, for an increase of about 14 per cent over the 1942 total and this in spite of the fact that the number of freight cars loaded showed a loss from the previous year of a fraction over 1 per cent. Passenger traffic in 1943 amounted to about 85,000,000,000 passenger-miles, for a gain of some 58 per cent over the previous peak year, 1942. For this phenomenal gain in passenger traffic the reasons are not hard to find; the movement of troops was the principal cause; next, perhaps were the gasoline and rubber tire shortages which with strict rationing markedly curtailed civilian use of passenger automobiles; then, there was the unexampled purchasing power of individuals which made possible the travel of wives and sweethearts, mothers and fathers to see their loved ones quartered in far-flung domestic military establishments, to say nothing of the travel of our military personnel on furlough nor the essential travel of civilians engaged in the war effort.

New equipment added to the rail plant in 1943, the volume of traffic considered, was rather negligible, probably no more than 29,500 freight cars and 725 locomotives. To the increased use of locomotives, to larger capacity of freight cars, to the use of reconditioned equipment, and to generally greater efficiency must therefore go the credit for this history-making achievement in railroading.

The prospects for obtaining enlarged supplies of equipment in 1944 are considerably brighter, chiefly because many of the arms contracts of the principal producers of railway cars, both freight and passenger, and of locomotives, as 1943 closed, were nearing completion. Link this factor with the easing in the supply situation in such raw material industries as iron and steel, copper and aluminum, here one may find an almost perfect setting for expecting increased releases for rolling stock and for something of a painless reconversion to peacetime activity.

IRON AND STEEL

Measured by the index of the Board of Governors of the Federal Reserve System, iron and steel production in 1943 exceeded the combined volume for 1942 by about 5 per cent. In thus establishing a new high level of output, the index recorded an increase of 109 per cent over the average for the five-year period, 1935-1939, and of 57 per cent over the 1929 peacetime peak year.

In supplying the enormous quantities of materials, old and new, needed for global warfare, the nation's steel mills took many difficult hurdles in their stride, not the least of which were strikes both at their own plants and at the coal mines and delivered their wares where they could do the most good and almost on schedule time. For the year as a whole, steel-ingot output amounted to about 89,200,000 net tons as contrasted with the previous year's peak of 86,030,000 tons; but for work stoppages due to labor trouble, the 1943 production would probably have exceeded 90,500,000 tons. As the year closed, war orders were tapering rather perceptibly, most noticeably because of cancellations of or cutbacks in contracts for small arms, tanks, and other implements of war and because of decreased needs for lend-lease.

At the year-end the nation's steel plant capacity was almost 94,000,000 tons, an increase of about 3,700,000 over the total at the year's outset. When peace comes, the problem of utilizing to the full the present capacity will challenge not only the management of the steel industry but also the best minds in industry generally.

Electric steels reached a new all-time production high in 1943, for a gain of 18 per cent over the total produced in 1942, and an increase of 484 per cent over the average output recorded in the five-year period, 1935-1939. Electric furnaces produced about 4,600,000 tons of high-grade and special steels as compared with less than 4,000,000 tons in 1942.

The 1943 output of pig iron was about 3 per cent higher than in 1942 and 98 per cent ahead of the average for the five-year base period. Beehive coke, an essential material in the steel making process, was produced at about five times the volume of the 1935-1939 average; at the same time steel scrap in 1943 ceased to be the problem it was just after Pearl Harbor. Though the iron ore movement on the Great Lakes was reduced to around 84,500,000 gross tons as contrasted with about 93,000,000 tons in 1942, there really was no stringency in the supplies needed for the making of iron, despite the coal strike picture, threatened and real.

NON-FERROUS METALS

The non-ferrous metals went to war in 1943 even more decisively than did steel. Measured by the index, non-ferrous metals and metal products, as a group, were produced in 27 per cent larger volume than in 1942, the previous peak year. More than that, the 1943 output was 170 per cent greater than the average for the five-year period, 1935-1939, and just about twice the production volume of 1929, the peacetime peak year.

Smelters and refiners were 35 per cent more active than in 1942 and their combined output was 177 per cent greater than the average for the years, 1935-1939. Copper, lead, and zinc smelters and refiners generally shared in these spectacular gains. Fabricators, too, participated to the full in the expansion dictated in the non-ferrous metals industries by war conditions; their combined output in 1943 was 23 per cent greater than in 1942, the previous peak year, and 168 per cent greater than the average for the five-year period, 1935-1939.

During 1943, aluminum production reached an annual rate of 2,100,000,000 pounds, better than seven times the peacetime level; relatively, magnesium did even better. Tin consumption, as estimated from probable deliveries to consuming establishments, thanks to increased ore shipments from Bolivian mines and to the growing success of the tin-can salvage program, attained new heights.

THE AUTOMOBILE INDUSTRY

Awakened from a long sleep one could hardly recognize in 1943 what was once the American automobile industry with all of its feeder satellites, so completely had war transformed it. No longer did the industry count its output in millions of cars and trucks but rather in billions of dollars of materials and equipment for war, in billions in the production of the lethal war instruments. During 1943, the industry, with its upwards of 500 companies operating more than 1,000 plants, reached a war production annual rate in excess of $10,000,000,000; the year's total exceeded $8,800,000,000 for a gain of better than 75 per cent over the 1942 total.

The industry entered 1944 with a backlog of orders in excess of $14,000,000,000 about half of which was accounted for by aircraft and engines and parts. Estimates vary widely as to the time required to reconvert to a peacetime basis and even as to the extent of contract cancellation. Whatever the estimates, the size of the backlog, the extent of plant expansion induced by the war the problems of retooling for peacetime production of cars and trucks, rank high among the factors that must be resolved to cushion the shocks to the industry itself and, because of its wonted importance, to the economy as a whole.

AIRCRAFT

The aircraft industry became in 1943 the nation's No. 1 manufacturing enterprise. Excluding aircraft production of the automotive industries, manufacturers counted the value of their output in 1943 at better than $11,500,000,000. This was some 80 times as large as the prewar average annual production and about three times as great as the value of automobile production in a better than average year.

In physical units, the 1943 production approximated 87,000 planes of every description as compared with 49,000 in 1942. Though the 1943 total in terms of units fell short of earlier scheduling, in point of tonnages involved the results were about as expected. For 1944, a minimum of 100,000, perhaps as many as 120,000, planes will roll off the assembly lines.

SHIPBUILDING AND MUNITIONS

Never before Pearl Harbor did our shipbuilders dare to dream of a day when they would be on a production schedule of 20,000,000 deadweight tons a year. Dream or no dream, as 1943 closed just such a rate was an accomplished fact, and behind it was an actual production total of 19,000,000 tons of cargo vessels that had slid down the ways in a single year. The gain over 1942 of around 125 per cent was spectacular enough; even so, its significance is best seen from a comparison with the 1941 output which was only about one-twelfth the size of the 1943 total. The tonnages and number of new naval vessels of every description that left the ways in 1943 were likewise phenomenal by any former standards of comparison, and with this accomplishment the blueprint of a two-ocean navy became a living force for our enemies to conjure with.

Munitions production in the aggregate—ships, planes, tanks, ammunition, guns, and field equipment—at the end of 1943 was at a monthly rate virtually seven times as great as in November 1941. As 1944 dawned, the enemy had already had a foretaste of the destruction which our planes, ships, and other munitions of war can deal and a preview of the fury that yet remains to be unloosed. We on our part, too, got a preview, a telescopic look at the economic planet war had forged and which somehow must be kept from hurtling comet-like off into space.

BUILDING CONSTRUCTION AND MATERIALS

New construction activity in 1943, totaling about $8,050,000,000, fell some 40 per cent from the peak total of 1942 and some 27 per cent below the level recorded in 1941. With the construction needs for waging war about met and with limitations on private construction still continuing, it is highly probable that the 1944 total of new construction activity will descend to a level low enough to remind one of the depression years of the 1930's. Such at least is portended by the decline that occurred in the volume of construction awards between 1942 and 1943, which, according to the figures of the F. W. Dodge Corporation covering the 37 states east of the Rockies, amounted to 60 per cent; $8,255,000,000 in 1942, only $3,274,000,000 in 1943.

Reflective of the decline in construction activity in 1943 were corresponding losses in the output of construction materials. Cement production declined from 1942 by almost 25 per cent to a level lower than any seen since 1940. The output of clay products in 1943 receded some 13 per cent from the 1942 total, likewise to a level lower than any since 1940. Gypsum and plasterboard production, on the other hand, marched on to a new peak in 1943, exceeding the previous year's output by some 5 per cent. Lumber production, not because of any weakening in demand but rather because of lack of manpower in the woods and at the mills, suffered a setback of 9 per cent in 1943 from the previous year. As 1943 ended, lumber had become the nation's No. 1 critical industrial material, virtually 50 per cent of its cut going into the production of containers of every description for use in shipping the products of farm and factory to the needed points of consumption the world over.

Besides construction and the construction material industries, the activity of machine tool builders in 1943 provided a further clue to the reconversion problems that lie ahead for the immediate and remoter future. This was not so much because of a decline from 1942 of some $200,000,000 or almost 15 per cent in the value of machine tool output, as because practically without interruption throughout the year, the month-to-month trend was downward, culminating 1943 at a level below the 1941 pre-Pearl Harbor monthly peak. What is more portentous is the likelihood that machine tool production in 1944 will fall to a level only about one-quarter that of 1942 or to about $325,000,000; such is the implication of the December 1943 backlog of unfilled orders, which was only about four times the volume of December shipments.

PROBLEMS AHEAD

Whatever the fortunes of war, almost regardless of the time when victory will be ours, irrespective of the terms of peace that will one day be written, our enlarged manufacturing plant now has approached challengingly close to the point where management, labor, capital, and government must begin jointly and aggressively to chart and implement the economic and social transition from war to peace. It is not as though no thought has been given already to this question, it has; rather is it that, without methodic, coordinated, self-enlightened action on the part of all —the employer, the wage-earner, the financier, and an understanding government—only chaos can result from the stupendous problems involved in reconversion.

The treacherous attack on Pearl Harbor, a brief two years ago, brought M-day, the day of mobilization; the unconditional surrender of all its perpetrators will just so surely bring D-day, the day of demobilization. Then, our returning soldiers, sailors, and marines, our war-workers, our enlarged female working population, our negroes for whom opportunities for employment had expanded materially may rightfully ask: what price, victory?

That it is not too soon to think and plan ahead, though war is still our first order of business, is strikingly portrayed by the shifts that have already occurred within the war production program. One by one, our industries have begun to drop off in production. In some cases, as in tanks, munitions, and ordnance, the drop has been counteracted by further expansion in landing-barge, aircraft, and truck production. In other cases, as in construction and machine tools, nothing has appeared to offset the drop—no extension in war goods, no perceptible resumption in civilian goods.

There are other considerations, too, that should impel us to action. By the end of 1943, about 55 per cent of our total physical production was for war; as 1944 opened, outstanding war contracts approximated $75,000,000,000, equivalent to more than one year's total national income averaged for the entire decade of the 1930s; ownership by the Federal Government of manufacturing facilities at the 1943 year-end approximated $15,000,000,000; Federal supplies and stock-piles aggregated a minimum of $50,000,000,000 at the beginning of 1944; upwards of 9,000,000 fighting men and women someday must be returned to their normal peacetime pursuits; more than 4,000,000 women workers have been added to the labor supply; a minimum of 2,000,000 Negroes have obtained opportunities for employment at wage-levels that otherwise might not have been possible; it took an all-engulfing war to the death to provide a full dinner-pail; the savings of the people are at the most explosive level in history; the national debt has attained a total which can be serviced only by a realistic tax system and a sustained high national income.

It is not enough to recite the technological advances that war has wrought, to tell of the new materials, the new processes, the new services, that in the years ahead will become available to our people. It is not enough to speak of the advances in mechanization nor of the prospects for lifting the face of America by a program of large-scale slum elimination. The larger story must be found in the actions that will translate blueprints into living, dynamic accomplishments, into results that will offset the impacts of forming dislocations and a declining population growth rate that in another decade or two could itself constitute an economic hazard of greater proportions than anything yet seen in the history of this nation.

THE UNITED STATES TARIFF COMMISSION

By Oscar B. Ryder

Chairman, United States Tariff Commission

Commissioners

Oscar B. Ryder, Chairman	Edgar B. Brossard
Lynn R. Edminster, Vice Chairman	E. Dana Durand

E. M. Whitcomb, Acting Secretary
New York Office—Room 513, Custom House
Samuel W. Pitts, In Charge

WORK OF THE TARIFF COMMISSION IN WARTIME

The United States Tariff Commission, which was established by an Act of Congress in September 1916, is an independent commission, bipartisan in membership, responsible directly to the Congress and the President. It has always been primarily an investigating and a fact-finding agency charged with the responsibility of supplying the Congress and the President with information in matters pertaining to the tariff, international trade, and international-trade policies. Even the special functions, which from time to time have been given the Commission by the Congress. have, for the most part, been fact-finding in character. Examples are the requirements for Tariff Commission investigation and reports before action by the President under the authority granted him to adjust tariff rates under the "flexible tariff provision," to prevent unfair competition in imports, and to prevent interference with domestic governmental programs in the agricultural field.

When first organized the Commission, in addition to assisting in the many problems directly connected with the First World War, prepared reports on international commercial policies and collected and analyzed information relating to thousands of commodity classifications covered by the tariff. This early study concerning commodities formed the nucleus for the summaries of tariff information used extensively during the tariff revision of 1922 and of 1930, as well as in connection with negotiations for trade agreements and as a basis for much of the commodity information being supplied at the present time to war agencies.

Before 1922 the Commission's work was performed under the authority of provision of sections of the Revenue Act of 1916, which established the Commission. The Tariff Act of 1922 and of 1930 gave the Commission additional functions in connection with the flexible tariff provisions (Section 315 of the Tariff Act of 1922 and section 336 of the Tariff Act of 1930), with the prohibition of unfair acts in the importation of goods (sections 316 and 337 of the Acts of 1922 and 1930, respectively), and with the provisions for penalizing trade of countries which discriminate against the commerce of the United States (Sections 317 and 338 of the two Acts, respectively). Of the work under these sections much the most important has been the work related to the flexible tariff provision, under which the Tariff Commission is required to ascertain the facts regarding differences in costs of production here and abroad in order to assist the President in adjusting duties to equalize such differences.

The Trade Agreements Act, enacted in 1934 for a three-year period and extended in 1937, 1940, and 1943, requires that information and advice be sought from the Tariff Commission in connection with the negotiations of trade agreements.

With the beginning of the war in Europe in 1939, the Tariff Commission was called upon to assist newly-created defense agencies not only by supplying to these new agencies experienced personnel from its staff, but also—and more important—by making available commodity information accumulated in the Commission's files, and available through the use of its trained technical, economic, and accounting staff. The Commission had at that time a large amount of valuable data on many of the materials considered strategic, critical, and essential. Since then, as war agencies have succeeded defense agencies, the cooperative efforts of the Tariff Commission have increased and every possible assistance has been rendered those charged with directing the war effort.

CURRENT WORK OF THE COMMISSION

The current work of the Tariff Commission is closely related to the war effort and is addressed to the many foreign-trade problems which the war is creating. It includes work done directly at the request of war agencies—at present the largest segment of the Commission's work—work in connection with the trade-agreements program, work in connection with Article VII of the Lend-Lease Agreements, and work on war changes as they affect the foreign-trade policies of the United States and of foreign countries. All these activities involve—are founded upon—the continuance of the basic work of the Commission in preparing commodity and geographic surveys and reports, and keeping up-to-date on the rapidly changing conditions in industry and trade.

WORK FOR WAR AGENCIES

Because the Commission has had long experience and has developed a staff of trained accountants in cost-of-production investigations, it has been called upon to help the Office of Price Administration in numerous cost investigations to obtain information to assist in the establishment and maintenance of price ceilings.

Work for the War Production Board is varied; it includes monthly technical and statistical analyses of certain commodities and special studies relative to stock piling, transportation, and shipping priorities.

The Tariff Commission has a liaison agreement with the office of Economic Warfare of the Foreign Economic Administration and prepares for that office special commodity studies and studies of particular foreign countries and areas.

Highly confidential work is done for the War Department. It consists, among other things, of studies of primary products produced in strategic areas and of available supplies of selected strategic commodities in all areas of the world. Reports containing information of a "geopolitical" nature have also been prepared.

Shortly after the establishment of the Food Distribution Administration, the Commission was requested to undertake a major program to assist that agency. The work has consisted of studies relating to the effectiveness of the government purchasing program and to other projects concerned with the production and distribution of food in connection with the war effort.

Although the Tariff Commission, in carrying out its policy of assisting in the war effort, has worked principally with the agencies referred to above, it has also rendered assistance to other government agencies on war problems. One of these projects resulted in a report to the Inter-American Defense Board on the industrial installations in Latin America. Analyses of imports were made in the Commission's New York office for the Reconstruction Finance Corporation for use in connection with the allocation of imports; and for the War Production Board in connection with the implementation of certain of the orders of that agency. The Commission likewise has cooperated with the Bureau of the Budget and other government agencies in the preparation of the Standard Industrial Classification.

GENERAL ACTIVITIES OF THE TARIFF COMMISSION

General activities of the Tariff Commission include various extensive projects undertaken largely to assist in solving problems relating to industry, foreign trade, and international commercial policies which the war is creating. Some of this work has been undertaken at the request of other agencies, but many of the projects have been undertaken on the Commission's initiative as part of its contribution to interdepartmental activities, particularly in connection with the implementation of Article VII of the Lend-Lease Agreement and in carrying out the "Good Neighbor" policy and other general economic programs.

WORK RELATING TO COUNTRIES AND AREAS

Work concerning the trade and trade policies of the various countries of the world and their dependencies has constituted a major part of recent activities of the Commission. Within the past year the Commission has issued several important reports in this field. Among them are "Foreign Trade and Exchange Controls in Germany," "Commercial Policies and Trade Relations of the European Possessions in the Caribbean Area," and a preliminary report on the "Economy and Trade of Puerto Rico."

The report concerning Germany analyzes the special trade and exchange procedures that were the principal features of Germany's trading methods in the period immediately preceding the war and also the effect of these procedures on the trade of Germany and of other countries.

For each of the areas included in the report on the European possessions in the Caribbean area information is included relative to the physical characteristics, population, natural resources, and economy and an analysis of the foreign trade and commercial policy.

There is now in preparation a more detailed and complete study on the economy and trade of Puerto Rico than the preliminary report referred to above. This work is being done at the request of the Committee on Territories and Insular Affairs of the United States Senate.

Currently the Commission has several other geographical studies in preparation. Among these is one relating to the British Empire. One of the principal topics in this report is British imperial preferences and their effect on international trade. Other sections will deal with the trade and trade policies of the United Kingdom, of the self-governing Dominions, and of the Crown Colonies and other British possessions.

WORK ON COMMODITIES

Fundamental to most of the work of the Tariff Commission is the compilation and analysis of data relating to the thousands of commodities which appear in the import trade of the United States. Much of this basic material has been organized in the form of Summaries of Tariff Information, previously referred to. These summaries incorporate information not only from government sources but also from trade sources, much of which is obtained at first hand in the field. In keeping these summaries up to date, it has been the practice of the Commission to give first consideration to those commodities of current significance. In the past year many of these have been the strategic, critical, or surveillance items with which the war agencies have been particularly concerned.

The Commission is preparing a series of reports on the effect of the war on selected domestic industries with special reference to the relation of these industries to foreign trade. The reports will show wartime developments in domestic industries and the effect of these developments upon American foreign trade and commercial policy. All of these studies involve tariff and trade matters of the greatest importance to this country, matters which must be considered in the formulation of post-war foreign-trade policies.

A preliminary report on United States production and sales of synthetic organic chemicals was issued during the year. In it are given statistics of production and sales in 1942 of coal-tar dyes, other finished coal-tar chemicals, and synthetic non-coal-tar organic chemicals. Similar information has been issued each year since 1918. Heretofore, subsequent to the issuance of a preliminary report, a final report was printed after all the information was received, tabulated, and analyzed. However, in order to avoid disclosure of any information that might aid the enemy, the detailed final reports for the years beginning with 1941 will not be issued until after the war has ended.

A study on the costs of wool, sheep, and lambs, 1940-43, was completed and issued. This study, prepared in cooperation with the Farm Credit Administration, concerns the approximate costs of production and income (1940-42 and 1943 trends) in western South Dakota, Texas, and the Far West.

Because of the important position silver has attained since the beginning of the war, the Commission issued a short report on Silver in Wartime. The report deals with new and wartime uses of silver, as well as the available stocks and supplies.

Related to the work on commodities is the Commission's report issued this year on Changes in Import Duties Since 1930, which includes all the changes in United States duties on imported commodities since the passage of the Tariff Act of 1930. The new edition supersedes the one published in 1939 and includes changes made to Feb. 1, 1943. It lists changes brought about through Congressional amendment to the Tariff Act of 1930, through Presidential proclamation under Section 336 of the Tariff Act, and through Presidential proclamation in pursuance of the trade-agreements program.

WORK ON INTERDEPARTMENTAL COMMITTEES

The Tariff Commission is represented on a number of interdepartmental committees. A considerable amount of this committee work is directly tied to the war effort and is conducted under the pressure of wartime emergency. Some of it, such as the trade-agreements work, is closely related to current operations of the Government in the field of international commercial policy and must, in large measure, be continued even in the midst of war conditions. An important part of it has to do with war-created problems in the field of international trade and commercial policy which will press for solution at the close of the war.

The work done in connection with these committees is very substantial and constitutes one of the main channels through which a great deal of the factual information assembled in the Tariff Commission is put to practical use.

TRADE AGREEMENTS

The Commission continues to supply information for use in connection with the trade-agreements program, and members of the Commission and of its staff continue to participate in the work of the interdepartmental trade-agreement committees.

In June 1943 a Joint Congressional Resolution was approved extending the period in which the President is authorized to negotiate agreements under the Trade Agreements Act for two years. Special studies were prepared by the Commission for use in connection with this legislation.

Announcements made during 1943 regarding negotiations for new agreements was one concerning Paraguay and one for another supplementary agreement with Cuba. Tobacco is the only import item to be considered in the negotiations for this supplementary agreement. An agreement with Iran, signed April 8, 1943, has not yet become effective; one with Iceland, signed Aug. 27, 1943, became effective Nov. 19, 1943. Digest of trade data and other information regarding the agreements previously concluded with Mexico and Peru and general information relative to the agreement entered into with Uruguay were issued by the Commission in 1943.

WORK UNDER THE TARIFF AND THE AGRICULTURAL ADJUSTMENT ACTS

Work under various sections of these acts has been small for several years. In as much as shipping restrictions have severely limited imports of commercial articles for civilian use, there has been no demand since the war began for changes in duty under section 336 of the Tariff Act, involving the equalization of foreign and domestic costs of production. There have been no investigations under this section for more than two years and few since 1933. Work under section 337 (unfair import practices), which has never been large, has likewise been slight in recent years, although the Commission is now engaged in one investigation under this section, the first one formally ordered since 1936. Activity under section 338 has also been small since trade controls throughout the world are on a war rather than a peacetime commercial basis.

Section 22 of the Agricultural Adjustment Act of 1933, as amended, provides for action restricting imports found by the President, after investigation and report by the Tariff Commission, to be interfering with any program undertaken under that act or related acts. A report under this section was made early in the 1943 calendar year which led to a modification of a previous quota restriction in order to facilitate importation of wheat and wheat flour purchased by the War Food Administration. All action under the section is, for the present, closely related to wartime emergencies, and the Commission keeps currently informed in order to be in a position to report promptly if further modification of existing quota restrictions on agricultural products should be required.

PUBLICATIONS

Work undertaken in connection with the war effort is usually of a confidential nature and therefore the resulting reports can not be made public. There are listed below, however, some of the reports relating to subjects of current interest, which the Tariff Commission published during 1943. Where prices are shown the reports are available by purchase from the superintendent of Documents, Government Printing Office, Washington 25, D. C., at the prices indicated. The reports marked "Free" may be obtained direct from the Tariff Commission while the supplies last.

Foreign Trade and Exchange Controls in Germany—35 cents
Spanish Edition of "The Foreign Trade of Latin America." (4 volumes)—$1.60 a set
Commercial Policies and Trade Relations of European Possessions in the Caribbean Area—40 cents
Trade Agreement Between the United States and Peru—Free
Trade Agreement Between the United States and Mexico—Free
Changes in Import Duties Since 1930—25 cents
Trade Agreement Between the United States and Uruguay—Free
Cost of Producing Crude Petroleum—Free
Silver in Wartime—Free
United States Production and Sales of Synthetic Organic Chemicals, 1942 (Preliminary Report)—Free
Costs of Wool, Sheep, and Lambs, 1940-43—Free

ADMINISTRATION OF THE TARIFF LAWS

By C. A. Freeman
Division of Fiscal Administration, Bureau of Customs,
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GENERAL

Even with the concentration of interest and effort in the United States on total war, the performance of the usual functions of such an organization as the Customs Service can not be greatly changed. While the world cataclysm considerably modified some customs functions and greatly expanded others, the normal and less spectacular routine, such as inspecting and appraising imported merchandise, calculating and collecting the revenue thereon, and preventing smuggling continued to constitute the most important of the activities of the Customs Service during 1943.

CUSTOMS COLLECTIONS

The total revenue collected under the provisions of the Tariff Act was 16 per cent less during the fiscal year 1943 than during the previous year. The trend of monthly collections, however, varied considerably. During the first three months the downward trend in customs collections, which had prevailed throughout the preceding year, continued until in September, 1942 only a little more than $20,000,000 was collected. This was the smallest amount collected in any single month for more than seven years, for not since July 1935 had monthly collections fallen below $22,000,000. In October 1942, however, the collection trend turned upward and for the five months ended in February an average of $25,000,000 per month was received. The last four months of the year showed a much sharper upward trend during which collections averaged more than $34,000,000 per month, a level which was maintained during the early months of fiscal year 1944.

Raw wool constituted by far the most important source of revenue during 1943, accounting for more than 1/3 of the total customs collections and yielding 8 per cent more revenue than during the previous year. In addition to wool only two other (liquors and tobacco) of the 15 dutiable schedules of the Tariff Act showed greater customs revenue than in 1942, increased collections on imported liquors being due to the discontinuance in this country in December 1942 of the manufacture of alcohol for beverage purposes. Duties on imports of certain metals of great strategic importance in connection with the war effort resulted in substantial duty collections during 1942; the extension by Executive Order 9177 on May 30, 1942 to the War Department, Treasury Department, and the Reconstruction Finance Corporation, however, of the privilege of free entry of goods intended for war purposes, which was formerly enjoyed only by the Navy Department, resulted in considerably smaller duty yield on these materials during the fiscal year 1943. A number of the other Tariff schedules covered goods which were largely the products of Europe or the Orient and for which the sources of supply were no longer open.

In addition to actual customs receipts, substantial amounts were collected by the Customs Service for the benefit of other agencies. These aggregated more than $38,000,000 in 1942 and $86,000,000 in 1943. By far the largest portion of the total in each of these years consisted of internal revenue on imported liquor and wines, the increase in 1943 being due in part to increased importations, but chiefly to an increase in internal revenue tax on alcoholic beverages.

REFUNDS AND DRAWBACKS

A further decline in the amounts of money refunded to importers was recorded during 1943. Refunds of excessive duties amounting to less than $3,000,000 and drawback payments to a little more than $10,000,000 in 1943 resulted in decreases from the preceding year of 19 per cent and 36 per cent, respectively. Most of the drawback was due to the export of merchandise manufactured from imported materials, of which during the year, sugar, copper, lead, wool and coal-tar products were the most important.

ENTRIES OF MERCHANDISE

For the fifth successive year there were fewer entries of merchandise than during the preceding year. This was in part owing to the tendency, observable during the entire war period, for bulk cargo shipments to increase and importation of packaged goods to decrease. Owing to the greater preponderance in peace times of entries of packaged goods, this trend results in a reduction in the number of entries of merchandise during a war period even though there is no reduction in the total volume of imports.

Contrary to the general trend, two types of entries were more numerous than in 1942. Informal entries (those having a value less than $100) showed an increase both in number and duty yield, and mail entries, although they yielded less revenue, were also greater in number than in 1942. The apparent anomaly in the latter case resulted from the exemption from duties of mail packages received in this country from members of overseas forces, so that a much larger number of mail entries than formerly covered free merchandise.

MERCHANDISE ENTRIES

	Number of Entries		Duties Collected		Per cent of Increase or Decrease (—)	
	1942	1943	1942	1943	No. of Entries	Duties
Consumption entries	365,216	315,632	$195,296,996	$167,310,457	−13.6	−14.3
Warehouse and rewarehouse entries	51,059	30,816	—	—	−39.6	—
Warehouse withdrawals	249,995	163,163	186,298,749	149,417,688	−34.7	−19.8
Mail entries	258,482	300,728	889,800	571,506	16.3	−35.8
Baggage entries	391,161	370,322	252,672	229,662	−30.9	9.1
Informal entries	202,600	227,499	655,448	903,406	12.3	37.8
Appraisement entries	9,925	8,626	118,237	95,336	−13.1	−19.4
Increased and additional duties	—	—	5,084,673	6,938,492	—	36.5
Other	603,101	505,131	204,258	491,365	−16.2	140.6
Total	2,131,539	1,921,917	$388,800,833	$325,957,912	−9.8	−16.2

INTERNATIONAL TRAFFIC

Almost all types of international traffic increased in 1943. This provided a better index of the volume of customs business during the year than did either the number of entries or the amounts of money collected. Passenger trains, although increasing very slightly in number, carried almost twice as many passengers across the border as during the previous year, and 25 per cent more freight cars were used to transport goods from Canada and Mexico to the United States than in 1942. Fewer documented vessels were recorded as entering the United States owing to the fact that Army and Navy transports were not ordinarily required to enter. Airplane traffic from foreign countries continued its uninterrupted expansion. The continued effect of gas rationing was shown by a further decline in the number of vehicles used and in the number of passengers using automotive transportation. Ferry traffic continued the downward trend which has prevailed for several years.

MERCHANDISE AND NARCOTIC SEIZURES

Seizures for the violation of the

customs laws were more numerous than in 1942, a condition applicable to all types of seizures except those of lottery tickets which were of the least numerical importance. The value of seized merchandise was considerably less than during the previous year although the total value of seizures in neither of the last two years was comparable with the value of seized merchandise during previous years, due to the inclusion in the totals for the two past years of the value of vessels and cargos seized for the violation of laws which, previous to March 1, 1942, were enforced by the Department of Commerce. Liquor seizures, although more numerous than during the previous year, were smaller in quantity and value than in 1942. Narcotic seizures, on the other hand, increased both in number and value from the previous year, but the quantity of narcotics seized was trifling as compared with the quantities seized from five to ten years ago. The recent low ebb of the illicit narcotic trade was in part due to the breaking up of several of important narcotic rings and in part to the closing by the war of Near Eastern and Oriental sources of supply. As a result of war conditions, most of the attempted narcotic smuggling occurred along the Mexican border. Few seizures were of large size, the largest seizure (smoking opium weighing 633 ounces) being made at El Paso in June.

WAR DUTIES

Owing to their strategic position along the land border and at the sea ports of the United States and to their training in the detection of subterfuges designed to evade the payment of duties, customs officers in wartime are required to assume many duties only remotely connected with their regular work. Prior to the entrance of the United States into the Second World War much of the work of enforcing neutrality and promoting national defense was assigned to them. With the entrance of this country into the war, additional responsibilities came thick and fast and involved alien property control, trading with the enemy, handling of communications or correspondence other than in the regular mail, and supervision over and occasional seizures of vessels belonging to belligerent countries.

The year 1943 brought with it such additional problems as the disposition of property salvaged from torpedoed or wrecked vessels; the admission into the United States free of duty during the war of various special categories of merchandise, such as effects of persons evacuated to this country by government order, articles for members of the armed forces of the United Nations or for enemy prisoners of war, and articles sent home as gifts by our soldiers and sailors abroad; the taking custody over imported merchandise and removal of it from docks and warehouses by order of the War Department where necessary to expedite the movement of war materials; the administration of Executive Order 9177, authorizing the free entry by certain governmental agencies of emergency purchases of war materials abroad; and the handling of imported merchandise which remained in customs custody for a longer time than the statutory provisions permitted, where delay in its removal was caused by governmental emergency licensing requirements, or by other wartime conditions.

Assistance was given to various military and civilian governmental agencies in cases involving war problems touching upon the field of customs jurisdiction. Close cooperation was maintained with the Office of Price Administration in connection with the importation of rationed articles, such as processed foods, coffee, sugar, shoes, tires, tubes, and other rubber products. The surrender of ration stamps or other ration evidence was required by customs officers before the delivery of the rationed articles was permitted. Assistance was also extended to the Office of Price Administration in connection with the lading of rationed ships' stores on outgoing vessels, and to the Office of Economic Warfare in not permitting the lading of excessive amounts of supplies as ships' stores.

RAILROADS

By John J. Pelley

President, Association of American Railroads

THE WAR FACTOR

American railroads in 1943 were called upon to provide the great bulk of inland transportation services required by the war effort and, in addition, to serve the essential needs of the civilian population. This proved to be by far the greatest transportation job in history and placed a heavy burden on railroad facilities. However, the all-time peak load of freight and passenger traffic was handled by the railroads in 1943 without serious congestion on the lines or delay to the movement of essential war commodities.

Advance planning and the splendid cooperation of all those interested in railroad transportation made possible the record performance of the past year. Shippers loaded cars more heavily, released cars promptly after loading or unloading, organized car efficiency committees, and otherwise aided in the conservation of transportation. The War and Navy Departments and other government agencies kept the railroads informed of their requirements and planned freight and troop movements in an orderly and systematic way. The Office of Defense Transportation and the Interstate Commerce Commission used their powers to promote maximum utilization of existing railroad facilities.

Manpower was a source of grave concern to the railroads in 1943. Personnel shortages were experienced throughout the year, resulting in curtailment of maintenance programs and in some delays to train and yard operations. The situation was acute in certain areas, with little or no immediate relief in sight.

The equipment situation was extremely tight in the second half of 1943, due to the limited number of new cars and locomotives obtained during the war period. During the two war years, only 1,500 new locomotives and 90,000 new freight cars were installed in service, due to limited allocations of steel and other critical war materials for construction of railroad equipment. This resulted in a net increase of less than 2 per cent in locomotive ownership and about 3½ per cent in freight car ownership, compared with increases over the same two-year period of 53 per cent in freight ton-miles and nearly 200 per cent in passenger-miles. However, prospects for obtaining new equipment in 1944 are brighter than at any time during the past two years, and the situation seems likely to improve during the year.

Steel rail and miscellaneous facilities were available to railroads in only restricted quantities during the past two years. The need for larger allocations of basic materials for such facilities is pressing. At the time this is written, it appears that allocations for 1944 will be more liberal than in either 1942 or 1943.

On Dec. 27, 1943, President Roosevelt issued Executive Order 9412 directing the Secretary of War to take temporary possession and control of all common carriers by railroad. This step was taken in advance of the threatened strike set for Dec. 30 by three of the five so-called operating brotherhoods. The other two operating brotherhoods (trainmen and engineers) and the 15 so-called nonoperating brotherhoods had also issued strike calls for the same date, but had called off the strike prior to issuance of the Executive Order. The order provides for termination of government possession and control when no longer necessary to prevent interruption of transportation service.

RAILROAD TRAFFIC

Both freight and passenger traffic reached new heights in 1943, recording increases for the fifth consecutive year. Freight ton-miles increased 14 per cent over 1942, and were 62 per cent greater than in the pre-war peak year of 1929. Passenger-miles soared 58 per cent above 1942, and were nearly double the volume of the pre-war peak year of 1920. Table I shows the statistics of railroad freight and passenger traffic over a period of years.

TABLE I

RAILROAD FREIGHT AND PASSENGER TRAFFIC

(Class I Railways in the United States)

Year	Revenue Ton-Miles of Freight (000 000)	Revenue Passenger-Miles (000 000)
1918	405 379	42 677
1920	410 306	46 849
1929	447 322	31 074
1939	333 438	22 651
1940	373 253	23 762
1941	475 072	29 350
1942	637 983	53 659
1943*	725 000	85 000

* Partially estimated.

The large increases in railroad freight traffic during the war period resulted in part from heavy shipments of war goods and lend-lease materials, and in part from special and unusual services which the railroads were called upon to perform. Because of the highly mechanized nature of modern warfare, and the fact that this country is furnishing its allies with large quantities of planes, tanks, guns, etc., transportation requirements of war goods have been much heavier in this war than in any previous one. This applies both to finished products and to raw materials that are used in their manufacture.

In addition to the heavy load of war freight, railroads have been called upon to perform special services during the war period. The movement of petroleum to the East is an outstanding example. Prior to the war that movement was handled almost wholly by tankers operating from Gulf ports to Atlantic seaboard ports. When tankers were diverted from that service to war uses, railroads took over the job, although they were not equipped for it and new facilities were difficult to obtain. Under the circumstances a remarkable job was done, and by July, 1943, an average of 1,000,000 barrels of oil was moved daily into the East by rail. Since that time, completion of the "Big-inch" pipe line and the return of some tankers to service permitted a reduction in the rail movement to around 800,000 barrels a day. However, the rail movement of oil to the East will probably be substantial for the remainder of the war period.

Other illustrations of special services rendered by the railroads during the war period are as follows: (1) Greatly increased all-rail movement of coal to New England; prior to the war, 70 per cent of that traffic was handled by colliers plying between Hampton Roads and New England; because of war conditions, this service was reduced 50 per cent and was shifted in part to all-rail inland hauls; (2) All-rail shipments of lumber from the Pacific Coast area to the East; this traffic formerly moved largely in vessels through the Panama Canal; a similar shift from coastwise vessels to the railroads occurred in the lumber movement from the South to the East; (3) Sugar and other products from Cuba, Central America, and South America by rail from Gulf and South Atlantic ports; a large part of this traffic formerly moved by boats direct to North Atlantic ports; (4) Increased rail movements of coal to Canada, Cuba, the far West, and other unusual destinations; (5) Heavy movement of import ores from the ports; (6) Rail services to new war plants, army camps, and bases, requiring longer hauls and additional facilities.

In the field of passenger service, organized troop movements, other directed military travel, movement of soldiers, sailors, and marines on furlough, and shifts from private automobiles have combined to produce a volume of rail travel few would have thought possible. In fact, so great has been the demand for rail passenger service that efforts have been and are being made to discourage non-essential travel for the duration.

RAILROAD EQUIPMENT AND MATERIALS

For the last two years it has been necessary to use the great bulk of this country's output of steel and certain other metals for direct war purposes—construction of ships, planes, guns, ammunition, jeeps, etc. Little was left even for so important a war industry as railroad transportation. Consequently, railroads have had to get along with less new equipment and other facilities than called for by the increases in traffic.

The railroad program for new equipment and steel rail in 1943, based on minimum needs, called for 878 new locomotives and 80,000 new freight cars for delivery by Oct. 1, and 2,100,000 net tons of rail for delivery during the calendar year. Actual deliveries numbered 620 locomotives, 27,360 freight cars, and about 1,500,000 tons of new rail. These deficiencies below minimum requirements handicapped the railroads to some extent in meeting traffic demands during the latter part of the year.

The railroad program for 1944 calls for 1,200 new locomotives and 50,000 new freight cars for delivery before Oct. 1, and 2,600,000 net tons of rail for delivery during the calendar year. Prospects are good that this program will be fulfilled, since more steel, copper, aluminum, and other scarce metals will be available for railroad use than in either of the two preceding years. If the program is met, railroad physical properties will be adequate to handle prospective traffic in 1944.

Generally speaking, railroads have obtained adequate maintenance materials during the war period, with the exception of rail for replacements. Some delays in release of materials have occurred from time to time, and it has been necessary to use less efficient and less durable substitutes in some cases, but, on the whole, the situation with respect to maintenance materials has been as satisfactory as could be expected under war conditions.

RAILROAD MANPOWER

As the railroads entered the year 1944, manpower problems transcended all others. Personnel shortages affected railroad operations and maintenance programs throughout 1943, and by the year's end had reached an acute stage in many areas. Two primary factors have contributed the development of the shortages—continuing Selective Service calls and excessive labor turn-over rates.

At this time there are about 225,000 former railroad employees in the armed forces. In addition, many thousands more have left the industry to accept employment in war industries operating on a "cost-plus" basis and paying so-called "suction" wage rates. In recent months the problem has become critical, both because of the existing shortages and because many experienced employees who previously had been granted occupational deferments are now being called by Selective Service. Replacements are difficult to find, and those who are obtained are, for the most part, untrained and inexperienced.

In an effort to meet the problem, railroads have employed about 75,000 additional women, have established training schools and training programs, have reduced physical requirements to an extent consistent with safety, have brought back into service retired employees, and have taken such other steps as they could. Notwithstanding all these measures, the industry was more than 100,000 workers short at the year's end, with little hope in sight for immediate relief.

RAILROAD WAGES

In September, 1942 the so-called

non-operating group of railway employees (clerks, shopmen, track workers, etc.) made demands for an increase in wage rates of 20 cents an hour. This was followed in January, 1943 by demands of the operating group (engineers, firemen, conductors, trainmen, and switchmen) for an increase of 30 per cent in basic daily rates of pay.

As no agreement could be reached by management and by the men on these demands, Emergency Boards were appointed by the President to investigate the disputes and to make recommendations for settlement. The Board which heard the non-operating case recommended an increase of 8 cents an hour for such employees, and the railroads agreed to pay the increase "subject to any existing requirements of law." However, the Economic Stabilization Director disapproved the increase, and a second Emergency Board was appointed to review the matter. That Board recommended a graduated scale of increases ranging from 10 cents an hour for the lowest hourly rated employees to 4 cents per hour for the highest rated. This recommendation was approved by the Economic Stabilization Director but was not accepted by the employees.

The Emergency Board which heard the operating case recommended an increase of 4 cents an hour for employees in that group. This was approved by the Economic Stabilization Director and was put into effect by the railroads. However, the brotherhoods refused to accept the award and called for a strike vote by their memberships. As a result of the vote, a strike call was issued, effective Dec. 30.

Meanwhile the non-operating group had also called for a strike vote, and as a result of it issued a strike call, also scheduled to begin on Dec. 30. The President of the United States then called all parties involved into conference at the White House. Following the conference, two of the five operating brotherhoods and the 15 non-operating unions called off the strike, but three operating brotherhoods declined to do so. Consequently, at 7 p.m. on Dec. 27, 1943, the Secretary of War, acting under authority of Executive Order 9412, took possession and control of the railroads to prevent possible disruption of transportation service. After this step was taken, the three operating brotherhoods who had declined Presidential arbitration called off the strike.

As this is written, negotiations are under way to dissolve the dispute, but the matter is not yet fully completed. The Executive Order provides that government possession and control of the railroads shall terminate when it is no longer required to prevent interruption of railroad service.

RAILROAD FINANCIAL RESULTS

Because of the difficulty at this time of estimating the effect of probable retroactive wage increases on railway operating expenses and net earnings, the figures in Table II applicable to 1943 are for the 12-month period ended Nov. 30. The figures for 1942 are for the calendar year.

Increased traffic in 1943 resulted in

TABLE II

CONDENSED INCOME ACCOUNT

(Class I Railways in the United States)

Item	12 Months Ended November 30, 1943 (millions)	Calendar Year 1942 (millions)
Total operating revenues	$8,976	$7,466
Total operating expenses	5,490	4,601
Tax accruals	1,839	1,199
Net railway operating income	1,456	1,485
Net income after charges	919	902

higher gross revenues for the railroads than in any previous year. These greater revenues were absorbed, however, largely by increased operating expenses and increased taxes, with the result that net earnings after fixed charges were only slightly above those of 1942. In fact, when the retroactive wage increases are included in the 1943 accounts, net earnings for the year will probably be less than in 1942.

Table II gives a condensed income account for Class I railways for the calendar year 1942 and the 12 months ended Nov. 30, 1943.

Total operating revenues in 1943 were affected by suspension on May 15 of freight rate increases authorized in *Ex Parte* 148. Those increases, originally effective on March 18, 1942, amounted to 4.7 per cent, or about $300,000,000 per year, based on present traffic volume. The increases were suspended by the Interstate Commerce Commission, by a 6-to-5 vote, until Dec. 31, 1943. However, the period of suspension was later extended until June 30, 1944, at which time the question will again come up for review.

Operating expenses in 1943 were affected by increased material prices and by increased wage costs. As explained earlier, the full effect of increased wages does not appear in the figures given in Table II. In 1942 and in the early part of 1943, operating expenses increased at a lesser rate than did operating revenues. However, in the latter part of 1943 the reverse was true, and that trend will probably continue throughout 1944.

Tax accruals were very heavy in 1943, being 53 per cent above the record 1942 level. Taxes absorbed 20.5 cents out of every dollar of revenue taken in by the railroads in 1943. These figures do not include transportation taxes paid by shippers and by passengers.

Net earnings after fixed charges during the 12 months ended Nov. 30, 1943 were a shade higher than those of the calendar year 1942. However, when it is possible to show the full effect of retroactive wage increases, the reverse will probably be true.

RAILROAD OPERATING EFFICIENCY

Railroads broke many records in 1943 in performance efficiency. All load factors reached new highs, as also did the miles run per car and per locomotive per day. Unserviceable equipment was kept at minimum levels throughout the year. Average speed showed a slight decline. The principal operating averages are shown in Table III, for the first 10 months of 1942 and 1943.

TABLE III

PERFORMANCE AVERAGES

(Class I Railways in the United States)

	First 10 Months	
	1943	1942
Net tons per car	33.5	31.5
Net tons per train	1,116	1,030
Car-miles per freight car day	51.2	49.0
Freight loco.-miles per day	125.0	122.5
Passenger loco.-miles per day	220.3	204.6
Average freight train speed (m.p.h.)	15.5	15.9
Gross ton-miles per frt. train hour	36,079	35,865
Net ton-miles per frt. train hour	17,022	16,212
Per cent unserv. ft. cars (Oct. 1)	2.8	2.7
Per cent unserv. locos. (Oct. 1)	5.3	6.1

OUTLOOK FOR 1944

As in 1942 and 1943, railroads will handle in 1944, to the best of their ability, all essential demands that are made upon them. At this writing, further moderate increases in traffic are anticipated in 1944—from 2 to 5 per cent in freight ton-miles and between 10 and 20 per cent in passenger-miles. More liberal allowances of materials for new equipment construction and for steel rail will give sufficient added physical capacity to the rail plant to permit absorption of these moderate increases.

On the other hand, the manpower situation holds little hope for improvement. It may well be the determining factor in the amount of traffic that the railroads can handle in 1944. It is a matter which must be given most careful and thoughtful consideration by those in charge of the war production program. Transportation is an indispensable part of the war effort and its capacity to handle traffic should be kept in balance with all other basic elements of the war machine.

HIGHWAYS

By Thomas H. MacDonald

Commissioner of Public Roads, Federal Works Agency

GENERAL

As in 1918, the regular Federal-aid highway program was practically suspended in 1943. Work of the Public Roads Administration, which normally administers Federal aid to the states, consisted almost entirely of road construction and services having a direct connection with the conduct of the war.

No new authorization of Federal-aid funds was made and funds available from previous years were used only on improvements having direct war significance. At the beginning of the fiscal year Congress increased to $260,000,000 the authorizations for access roads to Army and Navy establishments and war-industry sites.

ROAD CONSTRUCTION

During the fiscal year ended June 30, 1943, 8,445 miles of highway of all classes were completed, compared with 10,178 miles the preceding year and 12,936 miles in the fiscal year 1941. Approvals of new projects during the year dropped to the lowest level in many years.

The highways completed during the 1943 fiscal year consisted of 4,148 miles on the Federal-aid system, 1,056 miles of secondary Federal-aid roads, 106 miles in connection with elimination of railroad grade crossings, 2,836 miles of access roads to war industries and military and naval establishments, 168 miles of national forest highways, and 131 miles of miscellaneous construction. The total cost of all completed work was $274,802,000, of which the Federal Government paid $196,600,000 or 72 per cent.

GOVERNMENT RESTRICTIONS

During the year increasingly strong controls over all highway work and over the availability of materials for highway work were placed in effect by the War Production Board. In many places the Public Roads Administration has found that highway inadequacies are likely to impede war production seriously, and effort is continuously made to demonstrate to the War Production Board the great importance of smooth flow of traffic on the main arteries of war transport.

The war has necessitated also the placing of restrictions on motor vehicle use, but these restrictions should not be so severe as to interfere with war transport and production. With a background of years of experience in highway transport, the Public Roads Administration has been able to supply accurate information to policy-making officials to assist them in establishing sound controls in the field of highway transportation.

POST-WAR PLANNING

A limited program of planning major highway improvements for post-war construction has been under way for nearly two years, financed with $10,000,000 authorized by the Defense Highway Act of 1941 which requires that the states match funds for projects according to the usual Federal-aid plan. By the end of 1943, programs had been approved involving about 5,000 miles of improvements and absorbing more than half of the funds first made available for planning. The total estimated construction cost is estimated at about $275,000,000.

Only projects of such magnitude as to require considerable time and study in planning are included in this program. They are aimed largely at the solution of major traffic problems on main routes through and around cities and on sections of highway likely to form part of an eventual interregional highway system.

Congress has further authorized the Commissioner of Public Roads in cooperation with the highway department of any state to expend up to a certain maximum of any existing unobligated Federal-aid funds available to such state, for engineering and economic investigations and for surveys, plans, specifications, and estimates for additional post-war highway improvements.

As much of these existing funds may be spent for advance planning as may be deemed adequate, provided it is matched by an equal amount of state money and provided it does not exceed in any state an amount which would represent such state's share of $50,000,000 apportioned under the regular Federal-aid apportionment formula.

The availability of unobligated Federal-aid funds was extended to the end of the emergency declared by the President on May 27, 1941, "and for a period of one year thereafter."

ALASKA HIGHWAY

Work on the Alaska Highway from Dawson Creek, British Columbia, to Fairbanks, Alaska, was prosecuted on a large scale until late in 1943 when a 1,483-mile road adequate for military activity was completed.

Assistance of the Public Roads Administration in constructing the highway was requested by the War Department in March 1942. By the following summer a force of 500 engineers and engineering aides were supervising the work of close to 7,000 men employed by 52 American and Canadian contractors. The contractors were under agreement with the Public Roads Administration.

By late summer in 1942 the contractors' men and equipment were working with seven regiments of Army Engineer troops in pushing through a pioneer road, and were given the job of placing a gravel surface on the entire length of the route and of maintaining it in condition for use.

Construction operations were under way on a still greater scale during the 1943 construction season. The number of construction contractors increased to 81 and the size of their forces to more than 14,000 men. One regiment of Army Engineer troops also worked on the highway until near the end of July 1943.

The contractors' forces operated nearly 6,000 units of heavy road-building equipment nearly 24 hours a day, conquering many natural obstacles, such as permanently frozen muskeg swamp, glacier-fed streams, floods, and slides.

The Public Roads Administration also supervised construction of 86 permanent bridges, a few of which will have to be completed in 1944, owing to delays in obtaining steel.

INTER-AMERICAN HIGHWAY

As the war developed, the possible military importance of an overland route to the Panama Canal became so clear that the War Department in July 1942 took steps to finance and construct pioneer sections of road to close all gaps in the Inter-American Highway in Central America. The construction of the sections of pioneer road would contribute materially toward the completion of the Inter-American Highway, and the Public

Roads Administration furnished preliminary surveys for more than 100 miles of the unfinished gaps and final surveys for almost another 100 miles. In addition, Public Roads field forces set flags marking the route across other unsurveyed gaps, comprising a total distance of approximately 329 miles.

The Army Engineers agreed to make complete surveys over the line as marked by the Public Roads engineers, and to construct the pioneer road as nearly on the final location of the Inter-American Highway as possible. The Army Engineers completed about 600 miles of gap-closing pioneer road.

The Public Roads Administration continued construction of those sections of the Inter-American Highway already under way in cooperation with various Central American countries, and assumed the added responsibility of constructing several permanent bridges on the sections of pioneer road.

Construction is now nearly completed of Inter-American Highway standard plans on 160 miles of road in El Salvador, Nicaragua, and Costa Rica. About 71 miles of extraordinarily heavy construction in the mountains of Costa Rica is being completed to standard plans, but will not be finished for some time.

Now, at the close of 1943, the only large gaps remaining in the Inter-American Highway total about 500 miles in southern Mexico and a considerable mileage in Costa Rica.

WAR PROJECTS

The Defense Highway Act of 1941 directed the Commissioner of Public Roads to cooperate with the Army Air Corps in studying and constructing flight strips adjacent to public highways and authorized $10,000,000 for this purpose. This program was planned and executed, in major part in the past 1½ years. Public Roads Administration personnel and facilities for physical research are being used almost exclusively on war projects.

THE MOTOR BUS INDUSTRY

By Carl W. Stocks

Editor, *Bus Transportation*

INDUSTRY RECORDS AT ALL-TIME HIGH

Important accomplishments were achieved by the motor bus industry in 1943 under trying conditions of shortages of vehicles, tire troubles, lack of parts, and depletion of manpower. A glance at the record proves this. Final figures of operation for 1943 will not be available until some time in March, 1944, but for those who like things in concrete form these few facts should satisfy even the most credulous: intercity carriers, even with restricted speed limits and curtailment of routes, showed for the third quarter of the year a gain of 127.55 per cent in passenger revenue per mile of line over the 1936-39 base period, while city-suburban operations ranked second with 120.2 per cent gain and city companies showed an 86 per cent gain. Putting the matter another way buses are carrying more than half of all inter-city travelers and doing it with no appreciable increase in the number of vehicles. In a survey of 35,000 buses operating over 143,000 miles of line, which was made for the third quarter of 1943, all classes of carriers—city, city-suburban and intercity—were shown to have established an all time high for passenger revenue per mile of line and per bus owned despite a decrease in the amount of service.

In the city and in the suburban field, or what is known as the local transit industry operating buses, trolley buses, street cars, elevated and subway lines, half of the 18,212,000,000 passengers carried in the ten months ended with October were transported by bus. With the pre-Christmas rush still to be accounted for, it was estimated that the final figure for 1943 would reach 22,350,000,000. So in the first ten months of 1943 more passengers were handled by bus, by trolley bus, by street car, and by elevated and subway lines than in all of 1942, namely, 18,000,000,000. The traffic increase in 1943 thus is estimated at about 24 per cent over 1942, whereas the increase for 1942 over 1941 was about 28 per cent. The war-induced increases are reflected most in the smaller cities, thus adding to the evidence of the widespread distribution of war industries and consequent reallocation of labor throughout the nation. As matters stood at the end of 1943 the transit industry on a national scale was providing 170 rides per year for every man, woman, and child in the entire United States. In this connection it should, of course, be emphasized that the reduction in the value of all gas coupons for private automobile owners had the effect of turning many previous users of the private auto to buses.

Manpower and materials were conserved by the intercity carriers by the numerous instances in which the Office of Defense Transportation sanctioned plans for the coordination of intercity services. Thus, under the sanction of joint-action plans by O.D.T., intercity bus companies which pooled their services were guaranteed immunity from prosecution under the Federal anti-trust laws.

NEW BUSES IN PROSPECT

For 1943 the Office of Defense Transportation, claimant agency for the bus industry, was granted authorization of material sufficient to build 3,000 integral buses, but the manufacturing program fell far behind schedule. For 1944 ODT claimed 7,300 buses, 25 per cent of which are destined for intercity service. As 1943 drew to a close there was promise that the situation would improve by the further slowing down of demands for material being made in connection with the war effort. As a matter of fact early in December, 1943, prospects for the number of new integral buses for manufacture in 1944 indicated that permission would be granted for the production of parts for 6,960, divided 1,000 for the first quarter, 1,250 for the second quarter, and 2,355 each for the third and fourth quarters. From 20 to 25 per cent of this was to be allotted to over-the-road lines, and the rest for use in local transport areas. This means a maximum of 1,740 buses for the intercity lines, or a possible minimum of 1,392. There may be beneficial changes due to unexpected windfalls in material and increase in manpower and in manufacturing facilities, but this is not too likely since the pressure of the army and lend-lease for truck components is heavy. Be that as it may, the number of integral buses to be permitted by the War Production Board inched up as the year drew to a close. Originally it was 5,460; then it advanced to 6,460; and now as of the middle of December to the 6,960 figure.

During the year 1943 the situation on repair parts for maintenance also was acute, but this eased as the year drew to a close. In fact, early in December the War Production Board amended its limitations order so as materially to increase the available supply of parts deemed necessary to keep the essential motor vehicle transportation companies of the country in operation. An AA1 rating was granted to cover the first quarter of 1944. At the same time preference ratings were revised to assure additional automotive shop equipment.

POST-WAR PROSPECTS

Both bus operators and bus builders have been looking forward to the post-war period. It is true that nothing tangible has yet been advanced in the line of new bus designs, but it is to be expected that post-war buses will be different from those now in operation. It could hardly be otherwise with the wide experience in the development of the gasoline engine now going on and in the work that has been done in plastics. Some operators see ahead the possibility of an over-the-road or long-haul vehicle much more sumptuous than any now in operation. Those in the industry are conscious that much effort will have to be forthcoming to hold their present high place in the transportation field. Early in the year a pronounced trend was noted among long-distance bus companies to apply to the Civil Aeronautics Commission for helicopter airline rights. By any stretch of the imagination such services are a long way from realization, but the filing of the applications reflects the alertness of the bus managements to possible post-war developments.

SERVICE CUTS AID WAR EFFORT

One of the things that plagued the industry, trying to do a war-time job, was the order of the Office of Defense Transportation, directing that bus mileage be cut 20 per cent over that operated during the week of May 22. This order affected only the companies in 12 states in the so-called "Eastern Critical Area." Its issuance was owing to the acute gasoline shortage along the eastern coastline created by the drawing off of supplies for the African campaign, ODT being notified suddenly by the Petroleum Administrator of War that consumption by commercial motor vehicles must be reduced immediately by 25,000 barrels a day. Almost immediately concessions from the order were made by ODT to companies operating in all-out war production localities. Within a few weeks the condition of scarcity of gasoline had been eased to an extent which permitted the lifting of the service curtailment order effective Aug. 16, provided proof were offered that it was really desirable to restore the service cuts which had been made. The cuts in service by the companies which were subject to the order were for the most part made in off-peak hours by lengthening headways on lines serving so-called "thin" territory. In this way the inconvenience to the public was kept to a minimum, service on city lines being 6.42 per cent less per mile of line for the third quarter of 1943 compared with the like period in 1942 and intercity service 12.22 per cent less.

CONSERVATION OF MANPOWER

In view of the strain on equipment, the accomplishments of both the over-the-road bus and the transit industries in handling passengers who clamored for accommodations is explained in the resourcefulness of the industry in utilizing women workers on the buses and in the shops, in establishing training courses, and in devising dramatic and effective recruiting procedure. In this effort the industry had the help of 130 ODT-WMP special training classes for motor mechanics, aided at the end of the year by the program worked out by the ODT and the industry with the sanction of the WMP to organize cooperative manpower programs on a community-wide basis for all types of automotive maintenance establishments, approval to be sought from Selective Service officials of deferment and withdrawal schedules based upon the community manpower inventory and related to the needs of the community for automotive maintenance services. Another helpful development was the establishment of labor-management cooperative committees under ODT auspices so as to achieve maximum utilization of facilities and manpower, with emphasis on the part that employees could play in conserving rubber, gas, oil, rolling stock, and time, and in increasing the value of the services of the bus companies to the public. On the whole the experience of the industry with women both in the shops and as drivers has been most satisfactory.

SCHOOL BUS SYSTEM

One of the big problems of the industry was to preserve the adequacy of the school bus transport system. The extent of this operation is not generally recognized. It is a fact, however, that the economy of the present rural school system revolves around the bus, as it were. In that service today there are about 85,000 school buses. On them 4,000,000 school children are transported daily. Sensing that the preservation of this system was a major matter, educators meeting in work conference at Yale University and in Washington in the summer of 1942 laid down a general program which has since been used as a guide and has been published and reprinted by the American Automobile Association. Essentiality of this service was quickly recognized by the governmental claiming agencies, so that supplies of gasoline, rubber and parts have been adequate to keep these buses in service. There have, of course, been only small accessions to the school-bus fleet.

Among the problems that the school authorities had to meet was the one of an adequate number of drivers and the one of maintenance. Both of these have on the whole been satisfactorily met in many cases by training courses in each of these fields and by the employment in swing operation of civilians who were found to have the time to give to this work and who at the same time were able to meet the driver requirements laid down by the school authorities. On the whole the problem was met by concentration on the conservation of the existing equipment, with bus driver training directed principally toward his education behind the wheel, preventive maintenance, and roadside repairs. Further to conserve equipment, routes were revised to reduce mileage and to fill the bus to capacity. Pupils living within reasonable walking distance of schools were required to walk to school, and points were fixed along established school routes at which pupils congregated, thus to avoid detours by the school buses to pick up a relatively few number of pupils.

BANNING OF SUBSTITUTIONS

As a result of the war all plants were held in abeyance which had been made for the further substitution of buses for street cars in the operation of city transit service. In the first place, the buses were not available and, in the second place, the Office of Defense Transportation banned further changes of this kind. As a matter of fact, in several cases the Government, acting through O.D.T., commandeered equipment which was under construction for use in these substitutions and diverted the new equipment to the use of companies operating in war-production areas. In a few places where buses had been substituted for street cars, the street cars were returned to service where their restoration was possible owing to the fact that track and overhead wires had not been removed. The number of these instances was not very great, but the change back to street cars, notably that in Brooklyn, N. Y., did permit the diversion of the buses to war worker use by making it possible to improve service to war plants and to the Navy Yard.

THE OUTLOOK

Conditions at the close of the year indicated no appreciable let up in the demand for bus service. Even taking into account the possible early conclusion of the war and any slackening on that account of the war materials program, and any consequent lessening of employment, those workers who had priority in the use of their own automobile on the basis of its essentiality to the war effort would automatically have the value of their coupons reduced while meantime the cars of many other civilians are becoming less and less serviceable owing to deterioration and wear and inability to get replacement parts. Certainly there is no immediate prospect of private car owners being able to secure new cars. In a few words, the likelihood is that, for a considerable time after the cessation of hostilities, there will be a shortage of tires and of gasoline. It may safely be said that the bus industry is girding itself to meet this situation just as it has carried on successfully under the hampering conditions which it has experienced the last two years.

COMMUNITY TRANSIT

By Charles Gordon
Managing Director, American Transit Association

RECORD TRAFFIC VOLUME

The record-breaking achievement in 1943 by the transit industry, when more than 22,000,000,000 passengers were carried, was largely a result of close coordination of effort between the industry and the Office of Defense Transportation as represented by the Division of Local Transport. Traffic volume exceeded that of the previous all-time peak of 1942 by nearly 25 per cent and was almost exactly double the volume of the depression low of 1933, carried on vehicles having slightly less total carrying capacity than those in operation ten years previously. To accomplish this feat without even the semblance of a transit breakdown in any area of the country, every possible conservation expedient in maintenance and operation was adopted.

IMPACT OF TRAFFIC

Traffic growth in the smaller cities far out-distanced that in the larger, attributable to three primary factors. First, war industries have expanded more largely in the small and outlying places than in the larger cities; second, military establishments and naval installations are mainly located near the small to medium sized cities; and, third, restrictions on private

Size of City	Index as of Oct. 1943	Estimated Annual Index 1943
Cities less than 250,000	260.78	258.00
Cities of 250,000 to 1,000,000	197.87	194.64
Cities of over 1,000,000—U. S.	129.85	131.41

STATISTICS OF TRANSIT OPERATIONS IN 1942, WITH FORECAST FOR 1943

	Calendar Year 1943 (Forecast)	Calendar Year 1942	Per Cent Change 1943 Over 1942
	(Millions)	(Millions)	
Transit Passenger Traffic			
Surface Street Cars	9,100	7,188	+26.6
Rapid Transit	2,700	2,580	+4.7
Trolley Coach	1,300	979	+32.8
Motor Bus	9,250	7,253	+27.5
Total	22,350	18,000	+24.2
Transit Vehicle Miles			
Surface Street Cars	963.1	844.8	+14.0
Rapid Transit	458.2	465.2	−1.5
Trolley Coach	164.0	145.0	+13.1
Motor Bus	1,711.0	1,612.0	+6.1
Total	3,296.3	3,067.0	+7.5
Transit Revenues			
Surface Street Cars	$ 522.3	$ 402.3	+29.8
Rapid Transit	151.7	144.2	+5.2
Trolley Coach	70.3	52.7	+33.4
Motor Bus	548.5	426.6	+28.6
Total	$1,292.8	$1,025.8	+26.0

automobile usage have produced a greater shift of traffic from automobile to transit in the small communities because it was there that major reliance for pre-war transportation was upon privately owned vehicles. In some of these places traffic increases of 60 per cent above pre-war levels have been experienced. Taking the five pre-war years 1936-1940 as a base of 100 the trend indicates a steadily increasing divergence in traffic growth as the size of the city decreases. For the indexes for the last month for which traffic statistics were available and the estimated 1943 index, see the preceding pages.

The ability of public transit during the war to perform the unprecedented task thrown upon it has been severely affected by the following factors: 1. Inability to obtain sufficient new equipment; 2. Rapidly developing shortages of manpower; 3. Shortages of repair parts; and 4. The need for conserving fuel used in buses.

EQUIPMENT

Annual transit vehicle production during recent years is shown in the following table. It will be observed that production was stepped up in 1941 and 1942 above the pre-war level of 1939-1940, and then cut sharply in 1943 by orders of the War Production Board, designed to conserve critical materials, particularly rubber and copper. Production authorized in 1943 was below even normal replacement level and so provided no reservoir of new equipment for expanded operations. The construction program for 1944 conforms more nearly to normal pre-war production but is still far below current needs.

ANNUAL TRANSIT VEHICLE PRODUCTION

Equipment	1939–1940 Average	1941	1942	Authorized by WPB in 1943[1]	Authorized by WPB in 1944[2]
Street Cars	444	522	344	270	300
Rapid Transit Cars	77	0	0	0	0
Trolley Coaches	484	417	336	75	0
Motor Busses	4200	7360	7200	3000	5300
Total	5205	8299	7880	3345	5600

[1] In addition, 7,500 adult bus bodies for mounting on truck chassis and 3,000 sedan conversions were authorized for construction in 1943. These figures include production for Army, Navy, and Maritime Commission for use in the U. S., and vehicles for export to Canada.

[2] In addition, 11,000 adult bus bodies, 400 large trailer buses, 1,200 small trailer buses, 2,000 inter-city buses, and 3,200 sedan conversions were authorized for construction in 1944. These figures include production for Army, Navy, and Maritime Commission, and vehicles for export to Canada.

MANPOWER

Transportation services, including local transit, have been established as one of the 35 essential activities by the National Selective Service System and the War Manpower Commission. Nevertheless, the transit industry, like nearly all others, has been faced with serious problems in maintaining an adequate working force.

Substantial numbers of employees have been released to the armed forces, both through induction and through voluntary enlistment. Still larger numbers have been lost to war production industries where abnormally high wage rates have made the shift attractive, particularly to the younger men. These losses have taken place in a period when an expanded working force, required by greatly increased service and maintenance demands, was a prime necessity. Employment in the transit industry has, despite these losses, increased from a pre-war level in 1940 of 205,000 employees to approximately 243,000 in the middle of 1943. In some cases transit companies, despite their losses of employees, have more than doubled their operating force.

Manpower problems have been met

in part by working longer hours, both in maintenance and in operating departments; by lowering employment qualification standards and then trying to compensate by more intensive and improved training; by employing women to operate street cars, motor buses, and trolley coaches, to serve as conductors, street loaders, ticket agents, etc., and to work in shops and garages as servicemen, washers, mechanics' helpers, and even as specialty mechanics on items such as carburetors, distributors, armatures, air brake systems and the like. In some instances, women constitute as much as 25 per cent of the operating and maintenance forces.

The extremely heavy peaks—morning and afternoon—have made it possible for some transit companies to use part-time employees very effectively. These employees, both male and female, are normally employed in some other capacity—working a morning or evening tripper either before or after their other job.

Even so, in critical shortage areas, some equipment must be left out-of-service for lack of manpower to either operate or maintain it. Moreover, should Selective Service eventually find it necessary to induct all physically fit married men with children, then the transit industry stands to lose somewhere around 25 per cent more of its personnel. The prospect of finding replacements for this group is not encouraging.

REPAIR AND REPLACEMENT PARTS

Considerable difficulty is being experienced in obtaining repair and replacement parts to keep in operation a fleet of vehicles whose average age is continually increasing due to inability to obtain replacement vehicles. Every piece of transit equipment in the country that will run has been recommissioned, even equipment which had been placed in dead storage for scrapping. Street cars over 40 years of age and buses over 25 years of age, some of which have gone well in excess of 1,000,000 miles, are being regularly operated in revenue service today.

Parts for this old equipment, particularly automotive, were practically non-existent and, as a result, companies with these old buses were forced to scrap a part of each particular model in order to obtain parts to recondition and keep in operation the remainder of the vehicles of that model.

With respect to the newer equipment, it is frequently as difficult to obtain certain parts as it is to obtain parts for obsolete models. This is due to the fact that the armies of the United Nations require, for their mechanized equipment, parts which are produced on the same machines that produce bus parts, particularly engines, transmissions, and differentials.

OPERATING MATERIALS

Operating materials—gasoline and tires—are as difficult to obtain for public transport vehicles, as for private cars. Governmental agencies, however, fully recognize the essentiality of public transportation and have maintained, with very few exceptions, an adequate supply of tires for transit vehicles. Each bus operator is entitled to one spare for each size of tire on each vehicle. This means, in most cases, two spares for each vehicle, one for the front tire size and one for the rear tire size. In addition, interstate operators having more than 50 per cent of their mileage on routes extending more than 50 miles from a garage are entitled to an emergency reserve equivalent to one additional spare for each ten wheels.

With one exception, which was for a period of a few hours only, there have so far been no reported cessations of operation of buses because of gasoline shortage. Many transit companies on the eastern seaboard have, however, been within 24 hours of exhausting their gasoline reserves. In the early summer of 1943 the gasoline shortage became so acute that the Office of Defense Transportation was compelled to issue an order cutting gasoline allocations of all vehicles operating under Certificates of War Necessity—trucks, buses, and taxicabs—by ordering mileage reductions of not less than 20 per cent, using the mileage operated in the week ended May 22 as the base. Immediate compliance with this order was almost universal in the transit industry despite the fact that the reduced mileage created serious dislocations of service in some places. Where this occurred appeals to ODT were promptly handled and, in meritorious cases, additional gasoline was granted. Effective August 16, 1943 the reduction order was revoked and the original allocations of gasoline, as shown in the Certificates of War Necessity, reinstated.

STAGGERED HOURS

Following out the ODT policy of staggered hours in schools and places of work, many local War Transportation Committees instituted surveys resulting in staggered hours plans. These plans have met with varying success but in most places have effected very substantial reductions in peak hour traffic despite continually increasing passenger loads. While there is no general pattern followed in all of the changes in hours, it has been found in most places that earlier hours in the outlying industrial plants, later hours in the downtown district, and later school hours have been most satisfactory.

TRANSPORTATION EXPEDIENTS

The demands of war traffic have given rise to the adoption of certain expedients in vehicle construction which, while not adding greatly to the over-all transportation capacity of the country, have materially helped in several acute local situations.

A number of different types of trailer buses have been developed, ranging from trailers which will carry over 100 passengers, both seated and standing, down to small capacity trailers carrying nine to 11 passengers. The large trailers are powered by independent tractor units, and the small trailers are towed by passenger cars, sedans, or light trucks. The larger trailers are, in some cases, operated by the local transit company, in others by war production manufacturers or by the Army or Navy. Small trailers are usually individually or cooperatively owned.

Another development has been the construction of 15-passenger sedans through lengthening the chassis of conventional 5-passenger sedans. Most of these conversions are used by the Army and Navy for transportation of their own personnel.

In other instances individuals have converted trucks to buses by the construction of a crude body mounted on the truck chassis. In most cases such operations are prohibited by state law but in one instance—the State of Washington—a Victory Motor Vehicle Act was passed authorizing such vehicles to be operated if they are used exclusively for the purpose of carrying, for compensation, employees of defense plants only to and from their work. In one shipyard in the State of Washington over 300 such Victory buses are in operation, carrying about 7,000 passengers daily. Some of the buses travel as much as 150 miles per round trip.

During 1943 the director of the Division of Local Transport of ODT, Guy A. Richardson, issued a report entitled "Accomplishment Report for the Year 1942," pointing out that the conservation measures carried out in the transit industry had saved an estimated annual 200,000,000 bus miles, the equivalent of making available 14,500 street cars and buses. The survey covered 609 transit companies, aggregating about 90 per cent of the industry.

The following tabulation lists the results of some of the more important conservation measures adopted in accordance with policies laid down by ODT:

	Equivalent No. of Vehicles Saved
Staggered Hours	2,847
Old Vehicles Restored	2,362
Multiple Use of Vehicles	2,266
Service Curtailments	1,218

POST-WAR PROSPECTS

Since the prospect for cessation of hostilities in 1944, at least in Europe, has begun to look brighter, transit companies are beginning to make plans for the post-war era. Considerable interest is being evidenced in urban re-development for the elimination of blight, and many cities are developing comprehensive plans looking to a reorganization of the city structure. To a growing extent transit is being considered as a part of these plans, whereas, in pre-war years, there seemed to be a pretty general tendency on the part of planners to think that all that was necessary was the construction of broad highways, both "super" and conventional. The impact of the war has brought a growing consciousness of the essentiality of public transportation within cities and its ability to serve large numbers of passengers with very economic use of street space. That this consciousness will be carried over into the post-war period is becoming increasingly evident in the consideration being given to transit planning in connection with city planning.

THE MERCHANT MARINE

By John C. Niedermair
Bureau of Ships, Navy Department

GENERAL

The American shipbuilders exceeded the President's directive to produce 8,000,000 tons of merchant ships in 1942 and the grand total of 24,000,000 tons for both 1942 and 1943. As 1942 was drawing to a close four ships were being delivered every day. Early in 1943 it became routine to deliver five merchant ships each day. The December deliveries brought the total tonnage of ships delivered during 1943 to 19,661,000 tons and to a grand total of 27,752,000 tons since Jan. 1, 1942.

The average construction time of a Liberty ship was reduced from 241 days in January 1941 to 41 days by September 1943. Merchant ships to the number of 1,899 were delivered by the American shipbuilders during 1943, which is more than 2½ times the 746 ships delivered in 1942, and 20 times the 95 ships delivered in 1941.

Three outstanding matters of policy were considered during the year. First and foremost was the decision to change over from the slow Liberty ships to the larger and faster Victory ships; second, the consideration and planning for the post-war American Merchant Marine; third, the "no Sunday" war order effective Jan. 1, 1944.

THE CONSTRUCTION RECORD

The month by month construction record for 1943 was a most impressive one, which in all probability will not be exceeded materially in so far as a record month is concerned during 1944. In December 1942, 121 ships totaling 1,199,200 deadweight tons were delivered; January 1943, due to steel shortages, the total dropped to 106 ships totaling 1,008,400 deadweight tons; February the total was stepped up to 130 ships equalling 1,239,200 deadweight tons; the March figure was 146 ships totaling 1,516,000 tons. The average of five ships each day was attained in April when 157 ships were delivered totaling 1,606,600 deadweight tons; in May record deliveries of 175 ships equalling 1,782,000 deadweight tons were made; June deliveries equalled 168 ships totaling 1,676,500 tons. This brought total production for the first half of 1943 to 882 ships totaling 8,828,000 deadweight tons, comparing with 228 ships of 2,544,000 deadweight tons in the first six months of 1942 and 746 ships totaling 8,091,000 deadweight tons for the entire year 1942.

In July 158 ships were delivered equalling 1,670,700 deadweight tons; August deliveries equalled 164 ships totaling 1,697,400 tons; the September total equalled 160 ships and 1,652,651 tons; in October the total was 163 ships equalling 1,675,300 tons; November's total was 164 ships aggregating 1,692,800 tons; and the production for December was 208 ships totaling 2,044,000 tons, thus bringing the number of ships produced during the last six months to the amazing total of 1,017 ships equalling 10,833,000 deadweight tons. The grand total for the year was 1,899 ships equalling 19,661,000 tons and the combined record for both 1942 and 1943 was 2,645 ships delivered aggregating 27,752,000 deadweight tons. The record is one to be justly proud of, one which has more than overcome the threat from the Nazi submarines, and has helped to bring the vision of victory to the United Nations.

MARITIME COMMISSION AND WAR SHIPPING ADMINISTRATION MARITIME DAY REPORT

Rear Admiral Emory S. Land, chairman of the Maritime Commission and War Shipping Administration speaking at the observance of Maritime Day, May 22, 1943, stated that, in addition to naval craft, our shipyards were turning out an average of better than five ocean-going merchant ships a day. Nearly 19,000,000 deadweight tons of dry cargo ships and tankers will be built in 1943. The total shipyard capacity is 20,000,000 deadweight tons annually. Given the steel and the manpower needed, at least 2,000 merchant ships a year can be produced.

The shipbuilding facilities have mushroomed in growth. In 1937 there were ten shipyards with 46 ways capable of building ocean-going vessels. Most of these ways were occupied with naval construction. On May 22, there were more than 30 shipyards with more than 250 ways producing ocean-going merchant vessels. In addition, there were about 40 other yards producing other types of auxiliary craft, some for merchant service, some for the Armed Forces, and some for lend-lease.

In the short span of a little more than two years these shipyards have come into peak production in 24 states. Eight plants that produced steam propulsion machinery have grown to 24, all of them expanding their original capacity. Nearly 1,000 other factories in three-fourths of the states are producing parts and materials for merchant ships.

Standardization of design has been the Maritime Commission's policy. The principal production effort has been centered on the emergency cargo Liberty ship. "No changes" has been the keynote of Liberty ship production. At the same time the standard designs, C-types, and tankers were expanded as rapidly as turbines and gears became available. These ships will be the proper nucleus for the post-war merchant fleet.

THE VICTORY SHIP

During the year a new emergency cargo vessel known as the Victory ship has been developed. This type will replace the Liberty ship in the future program as rapidly as practicable. This new ship, larger and faster than the Liberty ship, was designed to permit the use of turbines and gears, or Diesel propulsive equipment. The expected speed is from 15 to 17 knots as compared with the 11 knots of the Liberty ship. It will be a good competitive ship in the post-war period, something which can not be claimed for the Liberty ship. Up to May 22 contracts for more than 500 of the Victory ships had been awarded, all to be delivered in 1944.

SHIPBUILDING EMPLOYMENT

Employment has increased on a vast scale in the nations shipyards and in the plants producing for them. In yards building both merchant and naval craft and keeping United Nations vessels in repair employment is nearing 1,500,000. Nearly 1,000,000 others are employed in the feeder plants, making a total of about 2,500,000 engaged in some phase of ship construction. Less than 100,000 were so employed five years ago.

COORDINATION IN BUILDING AND OPERATING SHIPS

The building of ships is primarily the Maritime Commissions job. Their operation has become the province of the War Shipping Administration set up by the President in February, 1942. The two organizations are closely coordinated. They interlock in their functions in many respects. The War Shipping Administration works in close affiliation with the Combined Shipping Adjustment Board, which results in a planned and coordinated allocation of tonnage under the flag of the United States with that of the other United Nations. This cooperative plan has worked out well in obtaining the maximum use of the Allied ships, eliminating much duplication of effort.

Many of the finest ships under the American flag and those that were being built for operators have been acquired and turned over to the Armed forces as auxiliaries in keeping with the intent of the Merchant Marine Act. In addition to 225 vessels transferred outright to the Army or the Navy, they have some 150 others under charter, a total close to 4,000,000 deadweight tons. All the rest of the merchant ships are in war service on the Government's own terms.

CARGO SHIPPING ALLOCATION

With military requirements increasing constantly and exceeding available ship tonnage there can be no relation to normal conditions in the near future. Only those commodities that are highly essential to the war economy of the destination country are scheduled to move with any degree of regularity. Under worked out plans, export cargo to each of the other American republics is determined by certificates of necessity issued in the destination country. These must be approved by a specially created agency of the country working in conjunction with the American Embassy or Legation. These documents from the destination country are required for the issuance of an export license by the Board of Economic Warfare and are passed to the War Shipping Administration as representing cargo space requirements of the various countries. Sufficient tonnage is made available to handle them where possible. Under this procedure the other American republics are receiving essential goods they require ahead of luxury commodities. Imports are handled on the basis of the emergency priority shipping list as decided by the War Production Board. This list, in addition to including strategic and critical materials, such as ores, metals, wool, hides, etc., required in the war effort, also provides for reasonable quantities of such commodities as coffee, sugar, tea, cocoa, etc., for civilian consumption.

One of the prime functions of the War Shipping Administration has been the support of the lend-lease program. That essential part of the war effort has grown in volume since its inception. Sailings are greatly increased, and 1943 will probably double the 1942 volume. Judicious allocation of tonnage is one of the prime considerations of the War Shipping Administration. How well this is done means much in our war effort. In February 1943, the record showed that 42 per cent of our dry cargo tonnage had been allocated to Army operations, 13 per cent to Navy, 30 per cent to lend-lease, and 16 per cent devoted mainly to maintaining our essential civilian economy and that of our territories and possessions and in service of the South and Central American countries.

Admiral Land concluded his report by recommending that there be definitely earmarked for United States commerce, under the United States flag, a modern fleet of from 15,000,000 to 20,000,000 deadweight tons for postwar use. Such a fleet to be made up of the Maritime Commission standard long-range types of vessels plus the Victory ships now in progress of design and construction.

TYPES OF CONTRACTS FOR THE CONSTRUCTION OF SHIPS

The Maritime Commission and the War Shipping Administration reported to James F. Byrnes, director of War Mobilization, that cost-plus-fixed-fee war contracts were converted whenever possible into employer incentive and fixed price contracts. Progress was made definitely towards: 1. Reducing the cost of war materials; 2. Eliminating conditions which caused some war contractors to hoard labor; 3. Eliminating waste of manpower and money. Fewer than 100 vessels were covered by cost-plus-a-fixed-fee contracts and that these were either of a design not developed or vessels which had been partially completed by the original contractors and had to be completed by another. In both cases it was impossible to make accurate estimates of cost or number of man-hours required.

The Maritime Commission, aside from these exceptions, has three types of contracts for construction of vessels, "fixed-price" contracts amounting to $325,000,000, "price-minus" contracts amounting to $1,900,000,000, and "man-hour" contracts amounting to $3,500,000,000.

The "Price-Minus" contracts, used for the more complicated, non-standardized vessels, assures the private shipbuilder reimbursement for all his legitimate costs plus a small minimum fee, and it also provides an incentive for reduction in cost and in use of manpower. The Commission sets an estimated cost based on detailed experience and knowledge; then if the shipbuilder reduces his cost below his estimate, his fee is increased. In effect the contractor and the Government share savings below the contract price so that the contractor who reduces his man-hours or otherwise effects economies gets one-half the savings added to his minimum fee and the Commission gets the ship for the contract price minus half the savings—hence the term "price-minus." Under "price-minus" a ship might be estimated to cost, for labor, material and overhead, $1,000,000. The minimum fee might be set at $30,000 and the contract price at $1,100,000; then, if the vessel actually costs $1,000,000 to build, the contractor would be paid the $1,000,000 cost plus the $30,000 fee. He would also be paid one-half the difference between $1,030,000 and the contract price of $1,100,000; in other words, he would receive a total of $65,000 or 6½ per cent of the estimated cost, and the vessel would cost the Government $35,000 less than the contract price. If the cost of building the vessel exceeded the $1,100,000 price, the contractor would get his cost and the $30,000 minimum fee. "Escalator clauses" are provided to adjust and meet changes in prices and wage scales over which the contractor has no control.

The "Man-Hour" contract used for Liberty and Victory ships is similar in general effect, but it places the emphasis upon man-hours rather than dollars of cost. This is practicable because of the high degree of standardization and because of the fact that virtually all the parts and material for these ships are purchased directly by the Commission and sent by it to the shipyards. The contractor is, therefore, concerned mainly with economy of labor. A normal number of man-hours is stipulated in the contract, and if this is realized in the actual building of the ship, a normal fee is paid. If the normal number of man-hours is exceeded, the fee is reduced; if it is bettered, the fee is increased, sharing the savings between the contractor and the Government.

The "man-hours" contract policy was adapted by the Commission early in 1941, and its wisdom has been demonstrated by the fact that total man-hours required for building a Liberty ship have been reduced from an estimated figure of 648,432 man-hours to as low as 336,846 man-hours.

The "Fixed Price" contracts of the

Commission also provide a strong incentive for reduction in both man-hour and dollar costs by subjecting profits included above a fixed figure to recapture, except that the contractor may increase his amount of profits if he decreases the contract price.

SHIP CONSTRUCTION COSTS

The Special Senate Committee Investigating the National Defense Program issued a report which covered many phases of shipbuilding and shipping. The Special Committee, known as the Truman Committee with Harry S. Truman (Mo.), chairman; Tom Connally (Texas), James M. Mead (N. Y.), Mon C. Wallgreen (Wash.), Carl A. Hatch (N. M.), Harley M. Gilgore (W. Va.), Ralph O. Brewster (Me.), Harold H. Burton (O.), Joseph H. Ball (Minn.) and Homer Ferguson (Mich.), with Hugh Fulton as chief counsel, included in its report a discussion and comparison of West Coast with East Coast shipbuilding costs. The report stated that, since the Liberty ship is a standardized vessel and since the materials therefore are allocated to the various yards by the Maritime Commission, it is possible to make worth-while comparisons of the efficiency of the various yards.

This efficiency can be measured by comparing the man-hours which each used to construct the Liberty ship, the dollar cost per ship, and the dollar cost of facilities per ship provided by the Government. The latter will continue to decrease as more ships are produced, and it is too early to draw final conclusions with respect to it.

The dollar cost figures for the purpose of a fairer comparison do not include the cost of materials furnished by the Maritime Commission. Such materials are the same, and their cost is approximately $700,000 per ship. The West Coast yard and East Coast yard selected for this comparison were the two best and most efficient producers of Liberty ships early in 1943. The West Coast yard was first in point of man-hours and second in dollar cost. The East Coast yard was first in dollar cost and second in man-hours. The West Coast yard delivered 12 Liberty ships in January 1943, at an average of 393,858 man-hours each. The average cost per ship for January was not available but for the ships produced in November and December it was $712,768 per ship, and for March the average was $677,000 per ship. The East Coast yard delivered nine Liberty ships in January 1943 at an average of 450,807 man-hours and an average cost of $607,827 per ship. The figures at both yards do not include their fees. When the figures as to equivalent ships are used instead of ships actually delivered for the month of January 1943, the average number of man-hours per equivalent ship in January required by the West Coast yard and the East Coast yard were 371,300 and 421,000, respectively; and the average costs, including fees, per equivalent ship were $657,000 for the West Coast yard and $576,000 for the East Coast yard.

Later figures indicated that the West Coast yard delivered a Liberty ship with a total of only 362,114 man-hours. The East Coast yard's later figures were 406,635 man-hours at a cost of $563,978.

The Committee sought to ascertain the reason for the disparity between costs and man-hours in the two yards. Attention was invited to the higher labor costs in the West Coast yard. In January 1942, according to Maritime Commission figures, the average wage at the West Coast yard was $1.26 per hour and at the East Coast yard $0.85 per hour. In January 1943 the average hourly wage at the West Coast yard was $1.40 per hour and at the East Coast yard it was $1.15 per hour. In general there has been a constant trend toward an increase in average hourly earnings at both these and other yards.

The cost of facilities per ship for the 129 ships produced by the West

Coast yard up to and including Jan. 31, 1943 was $125,376 per ship. The comparable figure for the 60 ships during the same period by the East Coast yard was $319,209 per ship. The cost of facilities will become less as a greater number of ships are constructed. Since the Government is paying for facilities as well as ships, disregarding the difference in wages, the total cost of building the ships under study at the West Coast yard is less than that at the East Coast yard.

MERCHANT SHIPBUILDING APPROPRIATIONS

On Jan. 12, 1943 President Roosevelt asked Congress for the immediate appropriation of $4,000,000,000 to accelerate the expanded merchant ship program in the current period ending June 30.

Admiral Emory S. Land disclosed in a statement to the House Appropriations Committee on Feb. 24 that a total of 4,403 ships of 44,159,605 deadweight tons will be built under the United States Maritime Commission's revised overall shipping program at a cost of $10,783,000,000. The scope of the program was outlined in a threefold appropriation request: (1) $5,200,000,000 contract authorization; (2) appropriation of $4,000,000,000 to cover costs of the program now in progress; (3) authority to increase administrative expenses by $4,468,266. The current program, mapped through 1944, calls for the construction of 2,242 ships, of which 544 were delivered before Jan. 1, 1942, and approval was requested to provide for the construction of 2,161 additional new type ships to be contracted for in 1943. For 1944, the Commission requested $4,000,000,000 in new funds and an increase in its contract authority of $5,000,000,000. Ships of the Liberty and Victory types dominate the 1944 program, accounting for some 64 per cent of the number of large and small vessels involved; 820 ships will be built on the present EC-2 Liberty ship pattern, and 399 are the new Victory type, larger, faster and generally more efficient than the Liberty ship. The new type will be costlier to build, running to $246 per deadweight ton as compared with the $200 per deadweight ton for the Liberty ships.

THE NEW VICTORY SHIP COMPARED WITH THE LIBERTY SHIP

The Victory ship designed by the Maritime Commission as an improvement over the Liberty ship will be faster, with finer hull lines, and equipped with propulsion machinery of more than twice the horsepower of the reciprocating steam engine used in the Liberty ship. The greatest advantage of the Victory ship over the Liberty will be increased speed. The Liberty has a speed of about 11 knots, while the Victory will have 15 knots or more, for faster convoys and to challenge the U-boat menace. The new ship will not be all welded but will be riveted in certain parts of the main structure. The general specifications of the two ships are as follows:

	Victory	Liberty
Length	455 feet	441 feet 6 inches
Beam	62 feet	57 feet
Deadweight tons	10800	10800
Cargo tons	9146	9146
Engine horsepower	6000 or more	2500
Decks	3	2
Speed	15 knots +	11 knots

SMALL COMMERCIAL AND MILITARY CRAFT

An impressive volume of smaller craft has come out of American merchant shipyards, according to a Maritime Commission statement of Oct. 27, 1943. These craft have been somewhat obscured by prodigious feats of building Liberty ships and other large cargo ships required by the war effort. In addition to the small merchant vessels, a large number of special type combat ships and auxiliaries of military design were built for the Army and Navy by the Maritime Commission; 168 cargo craft and 92 military types have been delivered to the armed services. In addition to these special military vessels, there have been delivered to the Armed Services since 1939, 235 vessels, mostly fast C-types and tankers, which after conversion have served as military auxiliaries or combat craft. Many of these were requisitioned from the Maritime Commissions long-range building program authorized before Pearl Harbor.

Except for 24 vessels delivered in 1942, all of the 168 cargo craft were completed in 1943. Almost 600,000 deadweight tons are represented by 109 of the ships, including 36 coastal cargo ships averaging 2,800 deadweight tons, 20 coastal tankers ranging from 1,400 to 5,700 deadweight tons each, 16 ore carriers of at least 15,000 deadweight tons each, 16 concrete barges, ranging from 5,700 to 6,400 deadweight tons each, and 21 wooden barges, ranging from 1,600 to 3,900 deadweight tons each. Unclassified under deadweight tonnage are deliveries of 33 seagoing tugs and 26 harbor tugs.

Included in the 92 military types are six aircraft carriers, 75 tank-landing craft, seven transports, two tenders, and two frigates, which were delivered during late 1942 and 1943.

Most of the smaller ships, except those for the Army and Navy, have been constructed at the request of the Office of Defense Transportation and lend-lease. The majority of this construction was in the Great Lakes and Gulf yards.

NEW MERCHANT MARINE ACADEMY

The United States Merchant Marine Academy, at Kings Point, Long Island, N. Y., the largest unit of the United States Merchant Marine Cadet Corps, was dedicated Sept. 30, 1943. The academy was built and equipped in record-breaking time; it is to the Merchant Marine what Annapolis is to the Navy and West Point to the Army. Although the Merchant Marine Academy has been modelled in some respects after Annapolis, principally in the matters of discipline and customs, the glorious traditions of America's merchant marine predominate in all parts of the life at Kings Point.

Among the many new buildings that have been completed since construction began in January of 1942, are the seven large modern fireproof dormitories with a total capacity of 2,400 cadet-midshipmen.

The United States Merchant Marine Academy was established in January 1941. It is a permanent institution, and has a wartime capacity of 2,670 cadets, but will be limited to 1,200 cadets in peacetime.

In addition to the Academy, there are two Cadet Basic Schools at Pass Christian, Miss., with a capacity of 300, and at San Mateo, Calif., with a capacity of 528, where preliminary training is given.

The training ships *William Webb*, *Robert Forbes*, *Felix Riesenberg*, and *Emery Rice* are attached to the Academy and the *Robert Waterman*, *Alfred Haag*, and *Samuel Samuels* to the Basic School at Pass Christian. Other auxiliary craft are in use at each school.

While in training, cadet-midshipmen are paid $65 per month, the same as paid to midshipmen at the Naval Academy. They are furnished with uniforms, textbooks, quarters, subsistence, and medical and dental care. When in port during the period of training on merchant vessels, each cadet-midshipman is examined by a cadet Instructor and is assigned studies to be carried on at sea. Aboard ship, cadet-midshipmen are quartered and mess with the officers.

UNITED STATES MERCHANT MARINE CADET CORPS

On Sept. 1, 1943, approximately

7,700 cadet-midshipmen were in training in the United States Merchant Marine Cadet Corps and nearly all of these will become officers during the years 1943 and 1944. From its inception in March 1938, with a complement of 100 cadets, to August 1, 1943, with a course covering a period of three years until 1942, the Cadet Corps has graduated 1,200 officers.

The United States Merchant Marine Cadet Corps was established by the Maritime Commission March 15, 1938. Its function is to train unmarried male citizens of the United States between the ages of 17½ and 23 years with a high school or college education, to become officers in our merchant marine, both in the deck and engine departments. In order that they may qualify for appointment, cadets must be accepted for the Merchant Marine Naval Reserve and appointed as midshipmen before they may receive appointments as cadets. They are then designated as cadet-midshipmen and are given instruction in naval science as well as in all nautical subjects necessary to qualify them upon graduation to sit for licenses as third mates or third assistant engineers in the merchant marine. Upon securing their licenses as merchant marine officers they are eligible for appointment as ensigns in the Naval Reserve.

Prior to Pearl Harbor, the course of training covered a period of three years. During the war, because of the need for merchant marine officers to man the new ships, the course has necessarily been reduced to 18 months. The first three months are spent ashore at one of the basic schools, the next six months on active merchant vessels, and the final nine months at the United States Merchant Marine Academy for advanced training. After the war the course will be extended to four years, consisting of one year at basic school, one year afloat, and two years at the Academy.

COMMERCIAL AVIATION

By Andrew F. Haiduck
Vice President in Charge of Engineering,
Bellanca Aircraft Corporation

GENERAL

The fortieth anniversary of the first successful flight, as well as the twenty-fifth anniversary of the inauguration of airmail, the year 1943 saw the $20,000,000,000 aviation industry, employing 2,500,000 people, emerge as the deciding factor in the coming victory over the Axis. This deciding factor was not only the fighters and bombers produced, but also the production of numerous global cargo airplanes. The cargo and passenger transportation activities of the Air Transport Command as well as those of the Naval Air Transport Services were at least ten times greater than the operations of the scheduled air transportation network at the beginning of the war. The global nature of these operations dictated the use of a new air map which came into general use at the end of the year. This map projection, with the North Pole as its center, emphasizes the complete freedom of the airplane from such surface barriers as oceans and mountains.

Notwithstanding that the airlines increased responsibilities under contract to operate various lines for the Air Transport Command they again chalked up impressive gains in revenue, passenger miles, mail and express. Paradoxically, this was all accomplished with less than one half of the normal number of airplanes used in previous years. Higher load factors averaging between 80 and 100 per cent, establishment of a priority system for passenger and cargo, greater daily utilization of each airplane, the elimination of duplicating schedules, made it possible for the airlines to show these gains, despite the loss of half of their airplanes. The more intensive use of each airplane and the higher load factor resulted in an estimated total gross income for the airlines in excess of $120,000,000. This figure does not include the airlines military operations, such as the management of modification centers, pilot and mechanic training programs, and other tasks.

Airway traffic continued its upward trend, principally owing to the large volume of military traffic, but as in previous years, the airway traffic control system developed by the Civil Air Administration over a period of years became a vital cog in the war picture. The Civil Air Administration airway traffic controlled aircraft operations for the last half of 1943 totalled 9,657,728 miles compared with the figure of 4,739,131 miles for the last half of 1942, a 103 per cent increase. However, it is anticipated that these traffic control facilities will be inadequate for anticipated post-war needs.

Aircraft production during the year was restricted entirely to military types or adaptations of existing commercial types. At the end of the year these airplanes were being produced at the rate of 9,000 per month. The Civilian Pilot Training Program operated by the Civil Air Administration remained the principal source for the training of pilots, mechanics, and technicians during the first half of the year. However, there was some curtailment of these training activities at the end of the first half, principally because the Army Air Forces themselves were then in a position to train adequate numbers of this type of personnel. The Civil Air Patrol, first established as a division of the Office of Civilian Defense on Dec. 1, 1941, was transferred to the War Department and became an auxiliary of the Army Air Force. The transfer was motivated apparently by the desire to make the Civil Air Patrol more directly available for the performance of services for the armed forces.

SCHEDULED AIR TRANSPORTATION MILEAGE

According to Col. Edward S. Gorrell, president of the Air Transport Association, it is estimated that revenue passenger miles flown by the domestic airlines during 1943 exceeded 1,540,000,000 as compared with 1,398,042,146 in 1942 and 1,369,584,231 in 1941. The figures for 1940 and 1939 were, respectively, 1,041,173,558 and 677,772,995. These operations were flown over the 35,000-mile airway system maintained by the Civil Aeronautics Administration.

The average passenger trip was 485 miles contrasted with the average of 224 miles in 1930. The plane miles per fatal accident was approximately 46,500,000 compared with 22,020,572 in 1942, a 110 per cent increase. This record, the best in history of commercial aviation, was achieved despite more intensive operation resulting from the reduced number of airplanes available. Each transport airplane in 1943 averaged between 10 and 12 hours of service daily compared with the 1941 average of 8½ hours. During the same years the airplanes flew 1,725 miles per plane each day in 1943 whereas the same figure for 1941 was 1,100 miles per plane each day. It is estimated that 46,561,000 miles were flown in 1943 per fatal accident against a figure of 33,255,670 in 1941. This overall record was estimated despite the handicaps of more intensive use of equipment and personnel.

PART PLAYED BY THE AIRLINES IN THE WAR EFFORT

In the latter part of December a fairly complete description of the part played by the airlines in the war effort was released by the Office of War Information. According to this report, 14 of the domestic operators were flying on international networks. These networks were respectively the North Atlantic route, Africa to Indo-China route, South Pacific, Alaska to the Aleutians. In addition, these airlines were operating extensive cargo schedules in this country. The latter route made possible recapture of the Aleutians by the United States Forces. In this particular instance, ten airlines rushed men and cargo quickly to the Aleutians, and according to the O.W.I. "they transported special troops and military equipment to Dutch Harbor. Airline pilots delivered army bombers with their crews and equipment. Naval Air Transport Service flew materials to Alaska and Aleutians Bases in squadrons of three planes each, utilizing one pilot familiar with the territory, the other pilots flying in formation. Even as the Japanese were attacking Dutch Harbor, airlines were coming in with supplies of equipment and war materials. Full evaluation of the airlines contribution to the defense of Alaska will probably have to wait the conclusion of the war."

Operations for the first nine months of 1943 of the 17 airline operators indicate that 75,631,813 revenue miles were flown in this period, of 1943. This is 87.381 per cent of the mileage for the same period in 1942. Revenue passenger miles for the first three-quarters of 1943 totaled 1,175,566,822 representing a 6.69 per cent increase over the figure of 1,071,754,027 for the 1942 period. Express pound miles flown in the same period totaled 22,255,622,990, a 34.61 per cent increase over the 16,532,818,742 express pound miles flown in the same period of 1942. Passenger seat miles during the same period declined to 87.77 per cent of the 1942 figure. The 1943 total was 1,340,076,578 whereas the 1942 figure was 1,526,757,081.

In September 1943, total revenue mileage flown by the 17 operators was 9,214,834, whereas the passenger miles for the same month were respectively 2,663,309,982 and 167,158,135.

Of the total of 9,214,834 revenue miles flown by all of the operators for the month of September 1943, American Airlines lead with a total of 2,310,189 revenue miles. United Airlines Transport Corporation, Trans-Continental and Western Airlines, Inc., and Eastern Airlines were second, third, and fourth respectively in revenue miles flown with totals of 1,891,772; 1,469,900, and 1,085,766. These four operators accounted for 70 per cent of the total revenue miles flown during the month of September. The total summary of operations for these first nine months of 1943 are tabulated below:

PASSENGERS AND SCHEDULES

The number of revenue passengers carried during the period from January 1943 was 2,465,346, representing 82.71 per cent of the total of 2,659,189 passengers carried during the same period in 1942. Passenger seat miles in the same period totaled 1,340,076,578, whereas the total for the same interval in 1942 was 1,526,757,081. The 1943 operations in this case were almost 87.77 per cent of those for 1942. The reduced number of aircraft and their more intensive use resulted in a 24.96 increase in revenue passenger load factor. The average load factor for the first nine months of 1943 was 87.72, whereas the same figure for the summary in 1942 was 70.2 per cent. In September alone, 321,616 passengers were carried and passenger miles totaled 153,980,314. Again American Airlines, United Airlines, TWA, and Eastern Airlines, led in the number of passengers carried in the order indicated. These totals were respectively 82,610, 50,276, 44,544, and 34,560. Additional details of these operations are shown in the above tabulation.

It is apparent that the revenue miles, revenue passengers carried and the passenger seat miles all declined somewhat. However, the intensive use of reduced number of aircraft left, after the Army had appropriated a good part of airline equipment, served to raise the revenue passenger load factor to the average of 87.2 per cent. It is estimated that the number of passengers is 3,000,000 for the entire year, somewhat less than the 3,550,833 in 1942. The peak number of passengers each carried in one year was 4,060,545 in 1941. The decline in

AIRLINE OPERATIONS

(First Nine Months of 1943 and 1942)

Operator	Revenue Miles Flown January–September		Revenue Passengers Carried January–September		Revenue Passenger Miles Flown January–September		Express Carried (Pounds) January–September	
	1943	1942	1943	1942	1943	1942	1943	1942
All American Aviation, Inc.	772,894	630,258	0	0	0	0	113,752	82,047
American Airlines, Inc.	19,661,006	21,626,604	694,984	801,802	327,309,307	309,745,343	15,343,020	8,111,447
Braniff Airways, Inc.	2,950,676	3,431,924	124,926	115,443	48,043,350	37,919,253	1,058,559	762,216
Catalina Air Transport	0	41,924	0	8,684	0	260,520	0	64,088
Chicago & Southern Air Lines, Inc.	1,631,765	1,711,513	65,161	56,700	26,027,572	21,478,702	630,212	497,559
Continental Air Lines, Inc.	1,146,946	1,273,668	39,289	27,432	11,138,441	7,260,463	90,943	64,077
Delta Air Corporation	1,628,440	1,896,821	81,539	83,056	30,224,866	24,817,484	429,592	207,569
Eastern Air Lines, Inc.	9,851,455	13,053,029	302,142	393,298	159,711,461	171,128,479	3,260,418	2,934,010
Inland Air Lines, Inc.	624,689	817,815	8,996	9,359	2,937,884	2,564,473	19,382	31,568
Mid-Continent Airlines, Inc.	1,000,302	1,254,247	24,652	22,474	6,827,127	6,085,848	122,688	85,625
National Airlines, Inc.	1,325,762	1,147,070	52,358	39,900	15,807,251	11,007,423	242,305	162,433
Northeast Airlines, Inc.	514,660	634,740	26,660	21,137	6,635,259	4,177,903	76,258	69,492
Northwest Airlines, Inc.	3,106,374	3,792,002	84,789	91,180	43,469,968	41,585,413	1,118,846	826,942
Pennsylvania-Central Airlines Corporation	2,216,260	3,489,404	176,041	219,416	37,599,422	45,404,024	3,144,475	1,733,690
Transcontinental & Western Air, Inc.	11,870,891	12,868,902	323,860	310,905	176,740,173	151,303,549	7,777,741	4,835,579
United Air Lines Transport Corporation	15,866,971	17,082,319	401,363	400,946	259,882,279	218,586,704	7,634,480	6,715,286
Western Air Lines, Inc.	1,462,722	1,874,754	58,586	57,457	23,212,462	18,428,446	707,498	969,940
Total	75,631,813	86,626,994	2,465,346	2,659,189	1,175,566,822	1,071,754,027	41,770,169	28,153,568
Index (1942 = 100)	87.31	100.00	82.71	100.00	109.69	100.00	148.37	100.00

Operator	Express Pound Miles Flown January–September		Passenger Seat Miles Flown January–September		Revenue Passenger Load Factor (Per Cent) January–September	
	1943	1942	1943	1942	1943	1942
All American Aviation, Inc.	15,664,605	8,778,100	0	0	....	....
American Airlines, Inc.	7,212,695,308	4,103,610,999	372,511,690	421,727,490	87.87	73.45
Braniff Airways, Inc.	534,661,694	275,212,664	52,453,171	59,585,228	91.59	63.64
Catalina Air Transport	0	2,011,530	0	379,320	....	68.68
Chicago & Southern Air Lines, Inc.	275,163,051	199,105,569	31,335,938	35,871,846	83.06	59.88
Continental Air Lines, Inc.	32,098,402	19,399,045	12,842,376	13,124,327	87.04	55.32
Delta Air Corporation	164,820,101	76,831,580	34,832,753	34,922,381	88.68	71.06
Eastern Air Lines, Inc.	2,020,006,748	1,795,269,601	184,497,253	251,548,551	86.57	68.03
Inland Air Lines, Inc.	4,734,079	5,784,850	4,510,965	7,682,588	65.13	33.38
Mid-Continent Airlines, Inc.	28,839,283	20,233,120	10,928,236	13,994,252	62.47	43.49
National Airlines, Inc.	69,304,293	43,074,702	18,457,733	15,497,436	85.64	71.03
Northeast Airlines, Inc.	15,606,298	18,198,982	10,800,107	12,189,518	61.44	34.27
Northwest Airlines, Inc.	737,298,343	626,421,877	51,979,758	65,316,141	83.63	63.67
Pennsylvania-Central Airlines Corporation	569,861,288	343,374,758	46,036,249	70,513,933	81.67	64.39
Transcontinental & Western Air, Inc.	4,443,708,320	3,136,085,270	198,449,650	222,791,908	89.06	67.91
United Air Lines Transport Corporation	5,812,848,179	5,428,307,746	284,011,884	270,382,318	91.50	80.84
Western Air Lines, Inc.	318,312,998	431,118,349	27,178,815	31,229,844	85.41	59.01
Total	22,255,622,990	16,532,818,742	1,340,076,578	1,526,757,081	87.72	70.20
Index (1942 = 100)	134.61	100.00	87.77	100.00	124.96	100.00

1942 and 1943 was due apparently to the fact that half of the airline equipment was turned over to the Army Air Force for strictly military duties. Certain routes and stops had to be eliminated, and short-haul passenger transportation was discouraged by the system of priorities. For this reason the average passenger trip, which was 224 miles in 1930 and 417 miles in 1942, increased to 485 in 1943.

FARES AND REVENUES

The average passenger fare remained in the vicinity of five cents per mile, a rate almost without change since 1941 when it was 5.04 cents per mile. In effect, however, the fare actually increased over the 1941 figure owing to the controlled elimination of the various discounts and commissions such as the 15 per cent discounts on scrip and one-way trips and the 10 per cent reduction on trips. These discounts were first used in 1942. A review of the total gross income, according to data furnished by Air Transports Association, indicates that the total gross income of the domestic airline operators will exceed $120,000,000 as compared with $108,942,000 in 1942, $97,000,000 in 1941, and $76,000,000 in 1940. The 1943 figure does not include any military contract operations.

AIRMAIL

Airmail ton miles for 1943 totaled an estimated 37,639,000, a 79 per cent increase over the figure of 21,066,627 for 1942. Corresponding figures for 1941, 1940, and 1939 were respectively 12,900,405, 10,035,638, and 8,584,891. These figures do not include trans-oceanic transportation of letters by the Army Air Transport Command and the Naval Air Transportation Service.

AIR EXPRESS

Air express celebrated its sixteenth birthday by a 48.37 per cent increase in poundage for the first nine months of 1943. Estimated total ton miles for the entire year was 30,680 tons, of which 61,360,000 pounds represents a .54 per cent increase over the 1942 operations. The five leading carriers of air express in the order of poundage carried were American Airlines, TWA, United Airlines, Eastern Airlines, and North Western Airlines, whose totals were respectively 15,343,020, 7,777,741, 7,634,480, 3,260,418, and 3,144,475. These five operators accounted for approximately 85 per cent of the total express carried in the first nine months of 1943.

Express pounds for the first nine months of 1943 totaled 22,255,622,990, a 34.61 per cent increase over 1942 operations during the same period. During the month of September a total of 5,384,732 pounds of express was carried by the 17 operators, whereas ton miles totaled 2,663,309,982. Again, a total summary of these operations is presented in the preceding tabulation.

AIR CARGO

Air cargo received the greatest emphasis during the year 1943. Air cargo is being carried by the airlines under contract to the Government, the Air Transport Command being under Major Harold L. George and the Naval Air Transport Service. The combined operations of these three resulted in "the greatest fleet of the world girdling air transports in existence." Fourteen of the domestic operators are flying trans-oceanic air routes. Emergency cargoes and equipment were flown to practically all of the many fighting fronts all over the world. While no detailed information has been released relative to the operations of these world wide communities it is known that they are divided into four main routes; (1) North Atlantic (2) South Pacific (3) South America, Africa, Indo-China route and (4) Alaska-Aleutian route. As mentioned previously the latter route was instrumental in recapturing Kiska, from the Japanese.

Both the ATC and the NATS are indebted to the airlines for a good part of their personnel, experience, and organization. The experience of the airlines, in particular, made possible the creation of the greatest cargo transportation system in the world. A slight indication of the direction in which air cargo is heading was demonstrated by the 4,375 mile non-stop flight of the *Martin Mars* from Maryland to Natal, Brazil. Carrying a crew of 16 and 1,300 pounds of Christmas mail to the armed forces, the following records were set: (1) the greatest air cargo 35,000 pounds; (2) the heaviest load ever lifted by a plane, 148,500 lbs.; and (3) the longest non-stop flight of cargo. At the end of the year, twin-engine and multi-engine airplanes were in volume production. Also, regular scheduled cargo operations were in actual operation.

CIVIL AIR PATROL

The Civil Air Patrol completed a year of outstanding work in 1943. It had an enrollment of 75,000 members, drawn from the 100,000 civilian pilots with their 25,000 private airplanes and 2,000 civilian airfields.

Their work in connection with coastal patrol was the initial step taken against the submarine movement. Official records released by the Office of War Information lists 30 pilots killed, 24 of them on submarine patrol. In addition, 73 airplanes were lost. It is estimated that 21,000 miles were flown per day in a nation-wide network of Courier service maintained by the Civil Air Patrol. In the course of the year the Civil Air Patrol was transferred to the War Department by order of the President and became an auxiliary of the Army Air Force. Apparently the transfer was motivated by the desire to make the CAP more directly available to perform its services for the armed forces. Towards the latter part of the year the Civil Air Patrol was utilized extensively in a recruiting campaign for additional pilots.

AIRCRAFT PRODUCTION

Aircraft production continued its upward trend until, at the end of the year, aircraft were being built at the rate of 9,000 per month. This figure can not be compared directly with the number of airplanes built in previous years since a good part of the 9,000 airplanes constructed were larger and heavier airplanes. For this reason, the monthly output is also given in terms of airframe weight. In May, 7,115 airplanes were produced, whereas 8,362 were produced in October, an approximate increase of 18 per cent. In terms of airframe weight, 52,200,000 pounds of airframe weight were delivered in May as compared with 66,700,000 pounds for October. This represents an increment of 27 per cent.

A change from defensive to offensive war dictated the manufacture of more and more bombers. This is reflected in the comparison made above. The great strides made in aircraft production is apparent when it is recalled that less than 1,200 airplanes were produced in 1938, whereas the 1943 total was 100,000 units. This accomplishment was achieved despite the increasing demands upon personnel by the armed forces, the lack of skilled help, and the incorporation of many changes found necessary by actual battle experience. Towards the end of the year the construction of primary trainers was curtailed to the figure made necessary by attrition. Apparently a sufficient number of trainers had already been built, but it was necessary to continue manufacture in quantities for normal replacement.

AIRPORTS

Airport development during 1943 was concentrated mostly on the larger fields. As a result there was 1100 per cent increase in the number of civilian airports with paved runways at least 3,500 feet long and capable of handling the large transports. The total number of such fields was 865 by the end of the year, whereas two years ago there were only 76. The total at the end of 1943 also does not include many large airports built solely for military use.

The development of the airport program was conducted under the authority of the Civil Aeronautics Act, in accordance with a plan of airport development outlined in 1939.

This particular plan at that time provided for a network of airports in the United States totalling an ultimate figure of 4,000. In the light of recent events, it is now known that the estimate of 4,000 airports was much too conservative. In 1940 the inadequacy of existing airports both in number and quality was recognized by Congress, and $40,000,000 was appropriated for a program for the development of public airports for national defense.

At the end of 1943 there were 3,129 airports, 600 of which had landing strips 4,500 to 5,000 feet long; 416 with strips 3,500 to 4,000 feet long, and 900 with strips 2,500 to 3,500 feet long.

THE AIRWAYS AND TRAFFIC CONTROL

At the end of the year there were 35,000 miles of civilian airways in the United States, not including 140,000 miles of air routes established by the Army and Navy in their global transport network. During 1943 the airway traffic control center handled over 11,250,000 aircraft movements as compared with approximately 1,500,000 in 1941. Recorded movements along the official airways during 1942 were 6,000,000. A good part of this traffic was military traffic. Air traffic control is divided into two broad categories: (1) airport traffic control and (2) air traffic control. The former is concerned principally with aircraft landing, taxiing, take-offs, and flight with the immediate functions of an airport. The latter has jurisdiction over all traffic operating along the Federal airway system. At the end of the year there were 23 airways traffic control centers, each controlling about 1,500 miles of civilian airways.

PILOT AND MECHANIC TRAINING

The Civil Air Administration training service gave approximately 250,000 courses during 1943 to Army and Navy cadets. At the end of the year there were approximately 2,500,000 cadets in the air forces of the Army and Navy. One hundred thousand of these were trained pilots and many more were mechanics, navigators, radiomen, meteorologists, and airport and airway engineers.

The 250,000 flight courses given in 1943 were a tremendous increase over the total in 1942 of 70,000. This increase can be attributed mainly to the Civil Air Administration ten hours flight course required for all Army cadets during their college training. The number of pilots holding Civil Air Administration certificates increased from 110,510 in 1942 to 124,050 in 1943.

ROTATING WING AIRCRAFT

The helicopter received considerable emphasis from a design and production viewpoint in 1943. In particular, the development of the VS-300 *Sikorsky* went ahead by leaps and bounds. The ability of the helicopter to take-off vertically and land vertically basically gives it some fundamental advantages over fixed wing aircraft; in particular the helicopter does not require extensive airport facilities of any type. Principally for this reason there are now many applications filed with the Civil Air Board for the establishment of helicopter routes between various communities. A Boston Department store filed application for six helicopter routes between Boston and seven other New England communities. Several bus lines also filed several applications for routes in various parts of the country. Igor Sikorsky announced that 14 passenger helicopters can be ready two or three years after the war ends; in fact, he added that helicopters capable of carrying more than 14 passengers would be possible in five to ten years.

RESEARCH

The research program as in 1942 gave way in many cases to the immediate type of research in the design or modification of current military type airplanes. Several airplanes have now appeared with the ideal low drag wing section resulting in an increased performance. However, most of these projects are confidential in nature, and no specific information has been released.

Jet propulsion appeared on the scene toward the end of 1943, when it was announced that a new type had been flown experimentally for some time and was now on its way to production. Speed in excess of 500 miles per hour has been mentioned in connection with this project but all actual performance figures are a military secret.

PERIODICAL PUBLICATIONS

Aviation
330 West 42nd Street, New York City.
Bus Transportation
330 West 42nd Street, New York City.
Electrical Communication
67 Broad Street, New York City.
Electrical World
330 West 42nd Street, New York City.
Journal of the Aeronautical Sciences
30 Rockefeller Plaza, New York City.
Manufacturers' News
120 South La Salle Street, Chicago.
Manufacturers Record
Cardler Bldg., Baltimore, Md.
Marine Age
75 West Street, New York City.
Marine Engineering & Shipping Review
30 Church Street, New York City.
Marine Journal
5 Beekman Street, New York City.
Marine News
26 Water Street, New York City.
Marine Progress
90 Broad Street, New York City.
Mass Transportation
431 South Dearborn Street, Chicago.
National Aeronautics
Willard Hotel, Chicago.
Passenger Transport
292 Madison Ave., New York City.
Popular Aviation
540 N. Michigan, Chicago.
Protectionist
38 Chauncy Street, Boston
Railway Age
30 Church Street, New York City.
S.A.E. (Journal of the Society of Automotive Engineers)
29 West 39th Street, New York City.
Shipping Digest
16 Bridge Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

MANUFACTURERS

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American Automobile Assn., Pennsylvania Ave. at 17th St., Washington, D. C.
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American Institute of Steel Construction, Inc., 101 Park Ave., New York City.
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National American Wholesale Lumber Assn., 41 E. 42nd St., New York City.

National Assn. of Cotton Manufacturers, 80 Federal St., Boston, Mass.

National Assn. of Ice Industries, 1706 L St., N.W., Washington, D. C.

National Assn. of Manufacturers, 14 W. 49th St., New York City.

National Assn. of Wool Manufacturers, 80 Federal St., Boston, Mass.

National Electrical Contractors Assn., 420 Lexington Ave., New York City.

National Electrical Manufacturers Assn., 155 E. 44th St., New York City.

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National Lumber Manufacturers Assn., 1337 Connecticut Ave., Washington, D. C.

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National Metal Trades Assn., 60 E. 42nd St., New York City.

Rubber Manufacturers Assn., 444 Madison Ave., New York City.

United States Brewers Assn., 21 E. 40th St., New York City.

United Typothetae of America, Tower Building, 719 Fifteenth St., N.W., Washington, D. C.

TRANSPORTATION AND COMMUNICATION

Aerial League of America, 570 Lexington Ave., New York City.

American Assn. of Railroad Superintendents, 111 Union Station, St. Louis, Mo.

American Railway Engineering Assn., 59 E. Van Buren St., Chicago, Ill.

American Road Builders Assn., 1319 F Street, N.W., Washington, D. C.

American Steamship Owners Mutual Protection and Indemnity Assn., Inc., 25 Broad St., New York City.

American Transit Assn., 292 Madison Ave., New York City.

Associated Traffic Clubs of America, Sec. L. B. Freeman, 105 W. Adams St., Chicago, Ill.

Association of American Railroads, Transportation Building, 17th and H Streets, Washington, D. C.

Cruft Laboratory, Harvard University, Cambridge, Mass.

International Amateur Radio Union, 38 La Salle Rd., West Hartford, Conn.

Maritime Assn. of the Port of New York, 80 Broad St., New York City.

National Aeronautic Assn., 1025 Connecticut Ave., Washington, D. C.

National Council of American Importers, Inc., 45 E. 17th St., New York City.

National Highways Assn., Bass River, Cape Cod, Mass.

National Industrial Traffic League, 1 La Salle Street Bldg., Chicago, Ill.

National Traffic Service Assn., 204 Franklin St., New York City.

North American Export Grain Assn., Inc., 2 Broadway, New York City.

Railroad Owners Assn., 502 Chandler Bldg., Washington, D. C.

Railway Business Assn., 38 S. Dearborn St., Chicago, Ill.

United States Bureau of Standards, Washington, D. C.

United States Naval Research Laboratory, Washington, D. C.

PART FIVE

SOCIAL AIMS AND CONDITIONS

DIVISION XIV

POPULATION AND MIGRATION

POPULATION STATISTICS

By Leon E. Truesdell
Chief, Population Division, U. S. Bureau of the Census

RATE OF POPULATION GROWTH

The population of continental United States on Jan. 1, 1943 (including persons in the military services abroad), was estimated at 135,603,500. This figure represents an increase of 1,650,828 over the estimate of 133,952,672 for Jan. 1, 1942, and an increase of 3,934,225 over the census population of April 1, 1940. The increase during the year 1942 was almost twice the average annual increase between the censuses of 1930 and 1940, and greater by more than 300,000 than the increase during the year 1941.

BIRTH AND DEATH RATES

This recent acceleration in the rate of population growth results mainly from a continued rise in the birth rate. During the calendar year 1941 there were 2,717,000 births (including an estimate for under-registration) as compared with an annual average of less than 2,400,000 between 1930 and 1940. During the next year the increase continued, the number of births in 1942, again including estimates for under-registration, being 3,020,000. These increases in the number of births are attributable, first to business prosperity induced by defense activity and to anticipation of conscription, and second to the effects of actual war conditions. The number of deaths in 1942 was about the same as in 1941, which in turn was about the same as the annual average for the last 10 years. Net immigration from foreign countries during 1942 amounted to not quite 90,000 as compared with about 40,000 in 1941 and an annual net emigration of 5,000 per year for the decade 1930-40.

The number of births during the year 1943, on the basis of preliminary returns, seems likely to exceed the number in 1942 by nearly 200,000, with the number of deaths remaining about the same. The number of births reported for each of the months in the early part of 1943 exceeded the number reported for the corresponding months in 1942, in some cases by a considerable margin. In October of 1943, however, the number of births reported was materially lower than the number reported in October, 1942, from which it may be assumed that the wartime peak in the birth rate has been passed and that further declines in the number of births may be expected. Conditions during 1944, therefore, seem to be less favorable to population increase, and with several million men in the armed forces, many of them stationed abroad, it seems likely that the birth rate may decline rather rapidly. The civilian

TABLE 1

BIRTHS AND DEATHS IN THE REGISTRATION STATES: 1920 TO 1942

(The birth registration states included 59.7 per cent of the total population of the country in 1920 and the death registration states 80.9 per cent; in 1933 both areas had been extended to include the entire country.)

Year	Births Registered			Deaths Registered			United States Totals, Partly Estimated for Years Prior to 1933 (thousands)		
	Number of Births	Rate per 1,000 of Population		Number of Deaths	Rate per 1,000 of Population				
		Annual	3-Year Moving Average		Annual	3-Year Moving Average	Births	Deaths	Excess of Births Over Deaths
1942......	2,808,996	21.0	...	1,385,187	10.4	...	2,809	1,385	1,424
1941......	2,513,427	18.9	19.3	1,397,642	10.5	10.5	2,513	1,398	1,115
1940......	2,360,399	17.9	18.0	1,417,269	10.7	10.6	2,360	1,417	943
1939......	2,265,588	17.3	17.6	1,387,897	10.6	10.6	2,266	1,388	878
1938......	2,286,962	17.6	17.3	1,381,391	10.6	10.8	2,287	1,381	906
1937......	2,203,337	17.1	17.1	1,450,427	11.3	11.2	2,203	1,450	753
1936......	2,144,790	16.7	16.9	1,479,228	11.6	11.3	2,145	1,479	666
1935......	2,155,105	16.9	16.9	1,392,752	10.9	11.2	2,155	1,393	762
1934......	2,167,636	17.2	16.9	1,396,903	11.1	10.9	2,168	1,397	771
1933......	2,081,232	16.6	17.1	1,342,106	10.7	10.9	2,081	1,342	739
1932......	2,074,042	17.4	17.3	1,293,269	10.9	10.9	2,178	1,358	820
1931......	2,112,760	18.0	18.1	1,307,273	11.1	11.1	2,231	1,372	859
1930......	2,203,958	18.9	18.6	1,327,240	11.3	11.4	2,327	1,393	934
1929......	2,169,920	18.8	19.1	1,369,757	11.9	11.7	2,291	1,446	845
1928......	2,233,149	19.7	19.7	1,361,987	12.0	11.7	2,368	1,444	924
1927......	2,137,836	20.5	20.2	1,211,627	11.3	11.8	2,439	1,347	1,092
1926......	1,856,068	20.5	20.8	1,257,256	12.1	11.7	2,410	1,422	988
1925......	1,878,880	21.3	21.3	1,191,809	11.7	11.8	2,465	1,353	1,112
1924......	1,930,614	22.2	21.9	1,151,076	11.6	11.8	2,532	1,323	1,209
1923......	1,792,646	22.1	22.2	1,174,065	12.1	11.8	2,475	1,358	1,117
1922......	1,774,911	22.3	22.9	1,083,952	11.7	11.8	2,455	1,287	1,168
1921......	1,714,261	24.2	23.4	1,009,673	11.5	12.1	2,628	1,248	1,380
1920......	1,508,874	23.7	...	1,118,070	13.0	...	2,526	1,383	1,143

Source: The American Year Book, 1943.

death rate will probably not increase to any extent in the next year or so, but military mortality is likely to become an important factor. Population growth, therefore, is likely to be less and less rapid as the war goes on.

POPULATION TRENDS

On the assumption that the population trends in effect up to 1940 would continue, it has been estimated that the population of continental United States would be about 141,000,000 in 1950, 147,000,000 in 1960, 151,000,000 in 1970, and 153,000,000 in 1980, and that at some time during the decade following 1980 the growth of the population of the United States would reach its maximum and perhaps begin a slow decline. The rather unexpected increases during the years 1941 to 1943 may call for a slight upward revision in these forecasts of population growth in future decades, though it is quite possible that the adverse effects of the war on population increase may completely offset the factors which for the time being accelerate the rate of growth.

The most significant data on births and deaths which need to be considered in any study of trends in population growth are presented in the following table which gives for each year from 1920 to 1942 the number of births and deaths reported from the registration states (since 1933 have included all the states), the annual rates per 1,000 of the population, and a three-year moving average of these rates. Estimated totals for the United States are also given (in thousands) for the years from 1920 to 1933; and in the final column the excess of births over deaths or the amount of the recorded natural increase in the population. (In making the population estimates for 1942 and 1943 which are presented above, allowances were made for under-registration of births and deaths, amounting to about 8 per cent for births and 3 per cent for deaths.)

NET REPRODUCTION RATE

On the basis of the birth and death rates prevailing in the United States between 1935 and 1940, the population of the nation will eventually show a slow decline, in the absence of net immigration, whereas with the rates prevailing 30 years earlier, 1905 to 1910, the population would eventually gain about one-third per generation. More specifically, if the birth and death rates for the period 1935 to 1940 were to continue indefinitely, there would be 978 daughters born per generation for every 1,000 women born during the preceding generation. The figure 978 is a net reproduction rate. The corresponding net reproduction rate for the period 1905 to 1910 is 1,336. A net reproduction rate of 1,000 means that each generation would just replace itself under the conditions stated above. A rate above 1,000 implies a potentially growing population and a rate below 1,000 a potentially declining population. Net reproduction rates are shown for the urban and rural areas of broad regions in the United States in Table 2.

It may be noticed in general that the reproduction rates for the rural-farm population are far higher than those for the urban or even the rural-nonfarm areas, being in most cases at least twice as large as the urban rates. These figures provide a numerical measurement of the extent to which the population of the cities must be recruited from the rural areas, especially from the farms, if the cities are to grow or even to maintain their present population.

TABLE 2

NET REPRODUCTION RATES FOR THE UNITED STATES BY REGIONS, URBAN AND RURAL:

1935 to 1940 and 1905 to 1910

Area	1935 to 1940	1905 to 1910
United States	978	1,336
Urban	726	937
Rural—nonfarm	1,150	1,499
Rural—farm	1,661	2,022
The Northeastern States	794	1,120
Urban	715	1,033
Rural—nonfarm	1,035	1,426
Rural—farm	1,406	1,439
The North Central States	944	1,308
Urban	753	963
Rural—nonfarm	1,146	1,451
Rural—farm	1,452	1,834
The South	1,182	1,614
Urban	712	764
Rural—nonfarm	1,211	1,591
Rural—farm	1,812	2,199
The West	941	1,166
Urban	726	807
Rural—nonfarm	1,174	1,459
Rural—farm	1,559	1,848

Source: Release P-1943, No. 5.

The net reproduction rate for the South as a whole is decidedly higher than that for the other regions, partly because of the larger percentage of the population of this area living on farms. The rate for the urban population of the South taken alone, however, is actually smaller than that for the urban population of the West or either of the northern regions.

SEX DISTRIBUTION

The relative numbers of males and females differed widely in 1940 as between one and another of the different population classes. In the native white population the number of males and females was almost equal, the ratio being 100.1 males per 100 females, while among the foreign-born white there were 602,892 more males than females, and a ratio of 111.1. In the Negro population, by way of contrast, there was an excess of females amounting to 327,442, and a sex ratio of 95. For all the population classes the number of males was smaller in proportion to the number of females in 1940 than in 1930.

The number of males per 100 females in the rural-farm population in 1940 was 111.7, as compared with 95.5 in the urban population and 103.7 in the rural-nonfarm. The sex ratios for these urban-rural areas are shown in Table 3, which shows also the numbers of males and females distributed by age for the United States as a whole.

TABLE 3

POPULATION OF THE UNITED STATES BY SEX AND AGE: 1940

Age	Total Population			Males per 100 Females			
	Both Sexes	Male	Female	Total Population	Urban	Rural—Nonfarm	Rural—Farm
All ages.......	131,669,275	66,061,592	65,607,683	100.7	95.5	103.7	111.7
Under 5 years......	10,541,524	5,354,808	5,186,716	103.2	103.4	103.3	102.9
5 to 9 years........	10,684,622	5,418,823	5,265,799	102.9	102.1	103.2	104.0
10 to 14 years......	11,745,935	5,952,329	5,793,606	102.7	100.7	102.5	106.5
15 to 19 years......	12,333,523	6,180,153	6,153,370	100.4	94.5	100.0	113.3
20 to 24 years......	11,587,835	5,692,392	5,895,443	96.6	88.3	97.6	121.4
25 to 29 years......	11,096,638	5,450,662	5,645,976	96.5	91.0	99.5	113.3
30 to 34 years......	10,242,388	5,070,312	5,172,076	98.0	93.3	104.2	108.3
35 to 39 years......	9,545,377	4,745,659	4,799,718	98.9	95.1	106.9	103.6
40 to 44 years......	8,787,843	4,419,135	4,368,708	101.2	97.8	110.0	104.1
45 to 54 years......	15,512,071	7,962,019	7,550,052	105.5	101.7	111.6	112.0
55 to 59 years......	5,843,865	3,011,364	2,832,501	106.3	100.2	108.4	122.7
60 to 64 years......	4,728,340	2,397,816	2,330,524	102.9	93.6	105.1	129.2
65 to 69 years......	3,806,657	1,896,088	1,910,569	99.2	86.4	101.8	137.0
70 to 74 years......	2,569,532	1,270,967	1,298,565	97.9	83.6	102.8	141.4
75 years and over...	2,643,125	1,239,065	1,404,060	88.2	74.8	96.1	123.5

Source: *Population*, Second Series Summary, p. 4.

It may be noted that though for all ages combined the number of males was only a little larger than the number of females, there was a considerable excess of males in the population under 15 years of age and a considerable excess of females in the population 70 years old and over. This general relationship is especially pronounced in the urban population but does not obtain in the rural-farm population, in which there was an excess of males exceeding 10 per cent in all the age groups beyond age 45.

NON-WHITE RACES

In many of the tabulations of the 1940 population census the only racial classification available is that which separates the white from the non-white. The non-white population is, of course, dominantly Negro, but for some purposes it is necessary to have further information with regard to its composition. Specific figures for the constituent races, classified as native and foreign born, are presented in Table 4.

The Negro population of the United States is practically all native, there being in 1940 only 83,941 foreign-born Negroes, constituting 0.7 per cent of the total. The Indian population is likewise practically all native, while the Chinese and Japanese are more evenly divided, with 48.1 per cent and 37.3 per cent, respectively, foreign born in 1940. The Filipinos are practically all classified as native by reason of the fact that in the classification by nativity, persons

TABLE 4

NON-WHITE POPULATION OF THE UNITED STATES BY RACE AND NATIVITY: 1940

Race	Total	Native	Foreign Born
Total	13,454,405	13,278,647	175,758
Negro	12,865,518	12,781,577	83,941
Indian	333,969	329,478	4,491
Chinese	77,504	40,262	37,242
Japanese	126,947	79,642	47,305
Filipino	45,563	45,132	431
Hindu	2,405	910	1,495
Korean	1,711	962	749
Polynesian	657	648	9
Other Asian	131	36	95
PER CENT			
Total	100.0	98.7	1.3
Negro	100.0	99.3	0.7
Indian	100.0	98.7	1.3
Chinese	100.0	51.9	48.1
Japanese	100.0	62.7	37.3
Filipino	100.0	99.1	0.9
Hindu	100.0	37.8	62.2
Korean	100.0	56.2	43.8
Polynesian	100.0	98.6	1.4
Other Asian	100.0	27.5	72.5

Source: Non-white Population Report, p. 2.

born in the Philippine Islands are counted as natives. Most of the Filipinos were born in the Philippine Islands rather than in continental United States.

CITIZENSHIP OF THE FOREIGN BORN

In the classification of the foreign-born population of the United States by citizenship, the first subdivision is that which separates the naturalized from the aliens. The latter are further classified into those having first papers (that is, having made formal declaration of intention to become citizens of the United States) and those not having first papers. In addition, there is a fourth group made up of those for whom no report

TABLE 5

FOREIGN-BORN POPULATION OF THE UNITED STATES BY CITIZENSHIP: 1940

Citizenship	All Ages	21 Years Old and Over
Total	11,594,896	11,292,821
Naturalized	7,280,265	7,159,643
Aliens, first papers	924,524	910,416
Aliens, no papers	2,555,128	2,424,976
Citizenship not reported	834,979	797,786
Percent	100.0	100.0
Naturalized	62.8	63.4
Aliens, first papers	8.0	8.1
Aliens, no papers	22.0	21.5
Citizenship not reported	7.2	7.1

Source: *Population*, Second Series Summary, pp. 3 and 4.

on citizenship was obtained and designated "Citizenship not reported." It seems likely that most of the persons in this last group are aliens, and they are often included in summary figures for total aliens. The citizenship figures both for the total foreign-born and for those 21 years old and over are summarized in Table 5.

MOTHER TONGUE

Mother tongue is defined as the principal language spoken in the home of the person in his earliest childhood. English was reported as the mother tongue in the 1940 census only if no foreign language was spoken. While at many points the classification by mother tongue runs parallel with that by country of origin, it should be noted that the mother tongue is not necessarily the same as the language of the country in which the person or his ancestors were born. For example, many persons of German mother tongue were born in Russia or Poland and many persons of Spanish mother tongue were born in Mexico or South America. The 1940 figures presented in Table 6 represent the first tabulation by mother tongue that has covered the entire native white population as well as the foreign born. The category "English" includes small numbers of persons who reported Irish, Scotch, or Welsh as their mother tongue. A large proportion

TABLE 6

MOTHER TONGUE OF THE WHITE POPULATION OF THE UNITED STATES BY NATIVITY AND PARENTAGE: 1940

Mother Tongue	Total	Foreign Born	Native of Foreign or Mixed Parentage	Native of Native Parentage
Total	118,392,040	11,109,620	23,157,580	84,124,840
English	93,039,640	2,506,420	12,181,040	78,352,180
Other than English	21,996,240	8,354,700	10,712,480	2,929,060
Norwegian	658,220	232,820	344,240	81,160
Swedish	830,900	423,200	374,040	33,660
Danish	226,740	122,180	95,460	9,100
Dutch	267,140	102,700	103,240	61,200
Flemish	54,340	31,900	17,840	4,600
French	1,412,060	359,520	533,760	518,780
German	4,949,780	1,589,040	2,435,700	925,040
Polish	2,416,320	801,680	1,428,820	185,820
Czech	520,440	159,640	279,040	81,760
Slovak	484,360	171,580	283,520	29,260
Magyar (Hungarian)	453,000	241,220	198,600	13,180
Serbian	37,640	18,060	18,300	1,280
Croatian	115,440	52,540	58,980	3,920
Slovenian	178,640	75,560	97,300	5,780
Russian	585,080	356,940	214,160	13,980
Ukrainian	83,600	35,540	45,280	2,780
Armenian	68,320	40,000	26,440	1,880
Lithuanian	272,680	122,660	140,620	9,400
Finnish	230,420	97,080	118,460	14,880
Rumanian	65,520	43,120	20,340	2,060
Yiddish	1,751,100	924,440	773,680	52,980
Greek	273,520	165,220	102,140	6,160
Italian	3,766,820	1,561,100	2,080,680	125,040
Spanish	1,861,400	428,360	714,060	718,980
Portuguese	215,860	83,780	120,500	11,580
Arabic	107,420	50,940	52,760	3,720
All other	109,480	63,880	34,520	11,080
Not reported	3,356,160	248,500	264,060	2,843,600

of these probably spoke a dialect of English, however, rather than the distinctive Gaelic language of their ancestors.

There were 21,996,240 white persons in the United States in 1940 with a mother tongue other than English, including 8,354,700 foreign born, 10,712,480 natives of foreign or mixed parentage, and 2,929,060 natives of native parentage. Nearly 5,000,000 persons in the United States reported German as their mother tongue, including 925,040 persons of the third and later generations. The largest numbers of these latter were reported from Pennsylvania and Wisconsin, but they were rather widely distributed throughout the north central area. Italian was the next most important among the non-English mother tongues, with 3,766,820 persons reporting, of whom 125,040 were of the third and later generations; and Polish was third, with 2,416,320 in all and 185,820 beyond the second generation. Of the 1,861,400 reporting Spanish mother tongue, most of whom were of Mexican origin, 718,980, or nearly 40 per cent, were of third and later generations. Of the 1,412,060 of French mother tongue in the United States, 518,780, or more than one-third, were of generations beyond the second. Many of these were, of course, French Canadians, but more than half of the total (289,760) was contributed by the French stock in Louisiana.

The population of Spanish mother tongue is largely concentrated in California, Texas, and other states of the Southwest, these being the areas where there has been the most extensive immigration from Mexico. The 221,740 persons of Spanish mother tongue in New Mexico represented more than 40 per cent of the entire population of the state, and a considerable proportion of these people are doubtless descendants of Spanish families which were established in this area long before its acquisition by the United States.

MARITAL STATUS

In the classification by marital status four major groups are shown —single, married, widowed, and divorced. These terms refer to the marital status at the time the census was taken. Persons classified as "Married" therefore include both those who have been married only once and those who have remarried after being divorced or widowed. Since it is probable that some divorced persons are reported as single, married, or widowed, the returns doubtless understate somewhat the actual number of divorced persons who have not remarried. The figures are summarized for the population 15 years old and over, white and non-white, in Table 7.

The category "Married" has been subdivided so as to show separately those persons with wife or husband present in the household and those with wife or husband not present. The latter group includes married persons whose families have been broken by separation (often preceding divorce), immigrants whose husbands or wives were left abroad, husbands or wives of persons enumerated as inmates of institutions, and other married persons whose usual place of residence is not the same as that of their husbands or wives, including soldiers, sailors, men in labor camps, etc., and their wives.

The percentage single is considerably higher for males than for females, mainly because of the fact that women usually marry at an appreciably earlier age than men. The differences in marital status between the two sexes are especially marked in the earlier ages. At age 17, for example, 8.8 per cent of the females returned in the 1940 census were married, as compared with 0.7 per cent of the males, at age 19, 26.4 per cent of the females as compared with 5.3 per cent of the males, and at age 21, 44.5 per cent as compared with 18.7 per cent. The proportion married for all persons 15 years old and over was about the same for males and females, partly because of the much higher percentage widowed among females—11.5, as compared with 4.3 for males.

TABLE 7

MARITAL STATUS OF THE POPULATION 15 YEARS OLD AND OVER BY SEX: 1940

Sex and Marital Status	Total	White	Nonwhite
MALE			
Total	49,335,632	44,743,534	4,592,098
Single	16,376,595	14,837,470	1,539,125
Married	30,191,087	27,437,546	2,753,541
Widowed	2,143,552	1,891,484	252,068
Divorced	624,398	577,034	47,364
Married:			
Wife present	28,657,376	26,236,779	2,420,597
Wife not present	1,533,711	1,200,767	332,944
Percent	100.0	100.0	100.0
Single	33.2	33.2	33.5
Married	61.2	61.3	60.0
Widowed	4.3	4.2	5.5
Divorced	1.3	1.3	1.0
FEMALE			
Total	49,361,562	44,560,185	4,801,377
Single	12,751,772	11,602,852	1,148,920
Married	30,087,135	27,276,696	2,810,439
Widowed	5,700,092	4,939,956	760,136
Divorced	822,563	740,681	81,882
Married:			
Husband present	28,514,359	26,106,430	2,407,929
Husband not present	1,572,776	1,170,266	402,510
Percent	100.0	100.0	100.0
Single	25.8	26.0	23.9
Married	61.0	61.2	58.5
Widowed	11.5	11.1	15.8
Divorced	1.7	1.7	1.7

Source: *Population*, Fourth Series Summary, pp. 5, 17, and 25.

In general, the distribution by marital status differs very little as between the white and the non-white population. The percentage of married persons with spouse absent, however, was materially higher for the non-white than for the white, amounting to about 14 per cent for non-white females, as compared with less than 5 per cent for white males or females.

HOUSEHOLDS AND RELATIONSHIP

The term "Private household" includes the related family members (who comprise the private family) and the unrelated lodgers and servants or hired hands who live in the same dwelling unit and share common housekeeping arrangements. The number of heads of private households, as shown in Table 8, is therefore the same as the number of private households or private families. A quasi household is a group of persons not living in private households, such as those living in a boarding or lodging house, an institution, a school, a labor camp, or a military or naval post, or the transient population of a hotel. The number of quasi households (80,122) is not particularly significant but the number of persons in these groups, that is, the number living outside private households, is for many purposes significant, amounting to 3,242,206, or

TABLE 8

RELATIONSHIP TO HEAD OF HOUSEHOLD: 1940

Relationship	Number	Per Cent
Total persons	131,669,275	100.0
In private households	128,427,069	97.5
Not in private households	3,242,206	2.5
Head (number of quasi households)	80,122	....
In private households	128,427,069	100.0
Head (number of private households)	34,948,666	27.2
Wife	26,570,502	20.7
Child	51,304,634	39.9
Grandchild	2,394,462	1.9
Parent	2,226,755	1.7
Other relatives	5,485,672	4.3
Lodger	4,462,606	3.5
Servant or hired hand	1,033,772	0.8

Source: *Population*, IV Summary, p. 26.

2.5 per cent of the total population of the United States.

The population in private households is classified in Table 8 in accordance with relationship to the head of the household, the classifications being for the most part self-explanatory. The first six classes represent the population in private families. The last two classes, 4,462,606 lodgers and 1,033,772 servants and hired hands, represent persons living in private households, but not members of the private families—5,496,378 in all, or 4.3 per cent of the total population. There were then, in 1940, including persons in quasi households, 8,738,584 persons, or 6.8 per cent of the population of the United States, who were not members of private families.

INSTITUTIONAL POPULATION 14 YEARS OLD AND OVER

A special report of the 1940 census is devoted to the institutional population, which comprises inmates of public and private establishments organized to care for resident prisoners, delinquents, mental patients, and for aged, infirm, or needy persons. The figures in this special report are limited to persons 14 years old and over and thus omit approximately 150,000 children in orphanages and in homes for dependent and neglected children and perhaps 25,000 other persons under 14 years old, mainly young persons who were in mental institutions in 1940. The data on institutional population are summarized in Table 9.

There were 591,365 patients 14

TABLE 9

INSTITUTIONAL POPULATION 14 YEARS OLD AND OVER, BY TYPE OF INSTITUTION: 1940

Type of Institution	Total Number	Per Cent of Population 14 Years Old and Over
Total	1,176,993	1.16
Prison or reformatory	217,919	0.22
Local jail or workhouse	99,249	0.10
Mental institution	591,365	0.58
Home for aged, infirm, or needy	245,026	0.24
Other and not reported	23,434	0.02

Source: Institutional Population Report, p. 2.

years old and over in mental institutions on April 1, 1940, these institutions including homes and hospitals for the mentally diseased, feebleminded, and epileptic; persons in homes for the aged, infirm, or needy numbered 245,026; inmates of prisons and reformatories, 217,919; and inmates of local jails and workhouses, 99,249. A little more than one out of every 100 persons 14 years old and over in the United States was an inmate of one or another of these types of institutions.

Of all the inmates of institutions, 70 per cent were native white, 16 per cent were foreign-born white, and 14 per cent were non-white. More than 90 per cent of the inmates of penal institutions were males, as compared with 59 per cent of the inmates of homes for the aged, infirm, and needy, and 54 per cent of the inmates of mental institutions.

INTERNAL MIGRATION

Data on internal migration were obtained in the 1940 census by means of a question asking, of each person five years old and over, his place of residence in 1935. On the basis of this question, the total population of 131,669,275 was distributed as follows: Non-migrants, including persons under five years of age, 114,438,396; migrants, 15,734,798; immigrants (from possessions or foreign countries), 359,499; and a group for whom migration status was not reported, numbering 1,136,682. Migrants were defined in general as persons who had moved from one county to another, that is, who reported 1935 residence in a county other than the one in which they were living in 1940. Nonmigrants, therefore, included persons who had moved simply from one house to another within the same city or county as well as those who were living in the same house in 1940 as in 1935. The data for migrants, so classified as to indicate movement from one urban-rural area to another, are summarized in Table 10.

The movement of population from farms to cities has for a long time been regarded as one of the most important factors in our internal migration. The figures in Table 10 indicate, however, that the movement of the migrant population from one city to another was far more important between 1935 and 1940 on a numerical basis than the movement from farms to cities. Of the 8,230,003 migrants who were found living in urban places in 1940, 5,663,353, or 68.8 per cent, came from other urban places,

TABLE 10

MIGRANTS BY RESIDENCE IN 1940 BY RESIDENCE IN 1935

Residence in 1935	United States, 1940	Urban, 1940	Rural—Nonfarm, 1940	Rural—Farm, 1940
Total migrants.......	15,734,798	8,230,003	4,467,409	3,037,386
Urban....................	8,895,255	5,663,353	2,417,030	814,872
Rural—nonfarm...........	2,982,627	1,474,970	1,142,234	365,423
Rural—farm...............	3,014,932	765,797	645,776	1,603,359
Rural, no report on farm or nonfarm................	658,578	223,479	207,905	227,194
No report on urban—rural..	183,406	102,404	54,464	26,538
Percent............	100.0	100.0	100.0	100.0
Urban....................	56.5	68.8	54.1	26.8
Rural—nonfarm..........	19.0	17.9	25.6	12.0
Rural—farm..............	19.2	9.3	14.5	52.8
Rural, no report on farm or nonfarm...............	4.2	2.7	4.7	7.5
No report on urban—rural..	1.2	1.2	1.2	0.9

Source: Internal Migration Report, p. 4.

TABLE 11

WHITE POPULATION AND FAMILIES IN THE UNITED STATES BY NATIVITY AND PARENTAGE: 1940

(Figures based on a sample tabulation)

Nativity and Parentage	Population	Families
Total	118,701,558	31,815,320
Native	107,282,420	26,484,780
Native parentage	84,124,840	20,560,740
Foreign or mixed parentage	23,157,580	5,924,040
Foreign parentage	15,183,740	4,066,700
Mixed parentage	7,973,840	1,857,340
Father foreign	5,267,140	....
Mother foreign	2,706,700	....
Foreign born	11,419,138	5,330,540
Percent	100.0	100.0
Native	90.4	83.2
Native parentage	70.9	64.6
Foreign or mixed parentage	19.5	18.6
Foreign parentage	12.8	12.8
Mixed parentage	6.7	5.8
Father foreign	4.4	....
Mother foreign	2.3	....
Foreign born	9.6	16.8

Sources: Nativity and Parentage Report, p. 1. Families Report, p. 9.

and probably not more than 820,000 from farms. Almost offsetting this figure there was reported the movement of 814,872 persons from urban places to farms. More than half the migrants to homes in the rural-farm area, however, came from other farms. (These figures do not represent the whole movement of population from farms to cities and *vice versa,* since they do not include such movement where it takes place within a single county; they should indicate, however, the general relationships.)

NATIVITY AND PARENTAGE

While in the main body of the 1940 census reports the white population is classified simply by nativity, that is, as native and foreign born, tabulations were made on a sample basis continuing the classification by parentage which has appeared in earlier census reports since 1890. These figures are summarized in Table 11, which presents figures both for the population and for families, the latter being classified on the basis of the nativity and parentage of the head.

The native white population as a whole represented 90.4 per cent of the total white population; the native population of native parentage formed 70.9 per cent of the total; natives of foreign parentage, 12.8 per cent, and natives of mixed parentage, that is, with one parent native and the other foreign born, formed 6.7 per cent.

Of the white heads of families, 16.8 per cent were foreign born, as compared with 9.6 per cent of the white population. The larger percentage for family heads than for total population results from the fact that a large proportion of the members of the families with foreign-born white heads, especially the children, have been born in the United States and are, therefore, classified as native.

FAMILIES AND CHILDREN

Of the whole number of families returned in the 1940 census, 40.9 per cent had no children under 18, 21.3 per cent had only one child, 14.5 per cent had two children, and 15.3 per cent had three or more under 18 years of age. The data on this subject are summarized in Table 12.

TABLE 12

FAMILIES BY NUMBER OF CHILDREN UNDER 18 YEARS OLD, FOR THE UNITED STATES, URBAN AND RURAL: 1940

(Figures based on a sample tabulation)

Area and Number of Children	Number	Per Cent
Total	35,087,440	100.0
Families having—		
No children under 18	17,164,680	48.9
1 child under 18	7,467,960	21.3
2 children under 18	5,082,520	14.5
3 or more under 18	5,372,280	15.3
Urban	20,749,200	100.0
Families having—		
No children under 18	11,001,900	53.0
1 child under 18	4,538,760	21.9
2 children under 18	2,892,940	13.9
3 or more under 18	2,315,600	11.2
Rural—nonfarm	7,261,340	100.0
Families having—		
No children under 18	3,376,860	46.5
1 child under 18	1,542,920	21.2
2 children under 18	1,093,880	15.1
3 or more under 18	1,247,680	17.2
Rural—farm	7,076,900	100.0
Families having—		
No children under 18	2,785,920	39.4
1 child under 18	1,386,280	19.6
2 children under 18	1,095,700	15.5
3 or more under 18	1,809,000	25.6

Source: Families Report, p. 10.

There are decided differences between urban and rural areas in respect to the number of children in the families. Fifty-three per cent of the urban families had no children under 18, as compared with 39.4 per cent of the rural-farm families, and conversely, only 11.2 per cent of the urban families had three or more children, as compared with 25.6 per cent of the rural-farm families.

SIXTEENTH CENSUS REPORTS

The major part of the material from the 1940 census is published in eight "volumes," most of the volumes containing several parts. Each volume has been made up by consolidating a series of state bulletins (in which form the data were first made public), including in each case a summary for the United States. There are four "volumes" presenting data specifically on population and four "volumes" presenting data on housing. In addition, there are now available 20-odd supplementary reports, for the most part based on sample tabulations, covering subjects as follows: The Labor Force (six reports), presenting detailed tabulations by occupation, industry, income, and personal and family characteristics; Nativity and Parentage of the White Population (three reports), including country of origin of the foreign stock and mother tongue of the entire population; Families (seven reports), including tenure, rent, family income, type of family, employment status, and general characteristics; Education, Occupation, and Household Relationship of Males 18 to 44 Years Old; Characteristics of Persons Not in the Labor Force; Differential Fertility; Institutional Population; Characteristics of the Nonwhite

Races; Internal Migration, 1935-40; Comparative Occupation Statistics, 1870-1940.

More detailed statistics on marital status, including data classified by age, and on relationship to the head of the household, may be found in Volume IV of the reports on population. Additional statistics on citizenship appear in Volume II of these reports. A special report is devoted to Institutional Population, as indicated above, another special report to Internal Migration, and still another to Mother Tongue. Further data with respect to the classification of families by number of children are to be found in the special reports on Families, in particular, in the one designated "Families—General Characteristics." A circular describing all of the reports of the 1940 census may be obtained upon request from the Bureau of the Census, Washington 25, D. C.

RACE CONDITIONS IN THE UNITED STATES

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GENERAL

In 1943 there were both encouraging and discouraging developments in the field of race relations. The repeal of the Chinese exclusion acts and the carrying out of bilateral agreements regarding temporary migration of farm workers from Mexico promised to improve our relations with those ethnic groups, but the year also saw a rising tide of race tension that led to actual riots in several cities. Recognition of this growing tension led to the formation of precautionary anti-riot and racial amity committees in many cities. Furthermore, a series of conferences of white and Negro leaders in the South culminated in the formation of a Southern Regional Council in Atlanta in August, 1943, under the co-chairmanship of H. W. Odum of the University of North Carolina and Charles S. Johnson of Fisk University.

In the field of research, first mention should be given to Gunnar Myrdal's study of contemporary Negro problems in America, carried out under the auspices of the Carnegie Corporation and entitled *An American Dilemma—The Negro Problem in Modern Democracy*. Two other volumes in this series, sponsored by the Carnegie Corporation, were also published: *Patterns of Negro Segregation* by Charles S. Johnson and *The Negro's Share* by Richard Sterner. Another noteworthy development of the year was the appearance in August of the new periodical *A Monthly Summary of Events and Trends in Race Relations*, prepared for the Julius Rosenwald Fund by the Social Science Institute of Fisk University.

IMMIGRATION AND NATURALIZATION

Admissions.—During the fiscal year ended June 30, 1943, only 23,725 immigrant aliens were admitted to this country, according to the last annual report of the Immigration and Naturalization Service. This number is lower than that for 1942 (28,781) and only slightly above that for 1933 when the admissions fell to 23,068, the lowest number recorded for over a century.

During the past 20 years the annual numbers of immigrant aliens admitted to this country were successively affected by the stringent immigration laws of 1924, the severer checks imposed during the depression, the influx of refugees from Nazi-dominated countries, and finally, the difficulties of travel imposed by the outbreak of the war. In 1924, there were 706,896 immigrant aliens admitted to this country. The number declined to 294,314 in 1925, to 97,139 in 1931, and to 23,068 in 1933. With the rise of Nazism and the consequent fleeing of refugees, the number of immigrant aliens admitted to this country climbed gradually to a peak of 82,998 in 1939. After 1939, the admissions decreased rapidly each year, being 28,781 in 1942 and 23,725 in 1943. It should be noted that the official immigration figures (used in this report) conventionally relate to fiscal years ending June 30. On a strictly calendar-year basis, the record of 1942 was even lower than that of 1933, the admissions being 23,765 and 23,899, respectively.

Hebrews.—The flight of refugees is reflected in the proportion of Hebrews among our immigrants since Hitler's accession to power in 1933. Only 10 per cent of the immigrant aliens admitted in the fiscal year ended June 30, 1933 were Hebrews. The proportion increased gradually until it reached a peak of 52 per cent in 1939 and 1940, and then declined to 37 per cent in 1942 and 20 per cent in 1943. The absolute numbers for 1939 and 1940 were 43,450 and 36,945, respectively. They were only 10,608 in 1942 and 4,705 in 1943. During the total ten-year period represented by fiscal year reports, 1934-1943 inclusive, 165,756 Hebrews were admitted as immigrants; they comprised 35 per cent of the total 476,930 immigrant aliens admitted during that period.

Geographic Origin.—The decrease in the total flow of immigration to this country since the outbreak of the war has been accompanied by a marked change of origins from Europe to the Western Hemisphere. In 1939, European countries were given as the last permanent residence by 76 per cent of the immigrant aliens admitted to this country, and countries of the Western Hemisphere were reported by only 21 per cent. In 1943, virtually these same percentages were reversed, *i.e.,* 21 per cent reported European countries and 77 per cent reported countries of the Western Hemisphere.

To take specific countries, 33,515 or 40 per cent of the total immigrant aliens admitted in 1939 reported Germany as the place of last permanent residence. Only a negligible number (248) gave this report in 1943. This was a natural consequence of the war situation. The proportion of immigrants reporting Canada as the country of last permanent residence was only 13 per cent in 1939, but 40 per cent in 1943. In absolute numbers, however, there was a decline from 10,501 in 1939 to 9,571 in 1943. The proportionate importance of Mexican origins increased from 3 per cent in 1939 to 18 per cent in 1943. The absolute numbers were 2,640 and 4,172, respectively. The West Indies increased in proportionate importance from 3 per cent in 1939 to 10 per cent in 1943.

The data concerning last permanent residence, however, exaggerate somewhat the declining importance of European origins since 1939. Actually, some of the immigrants reporting Western Hemisphere countries as last permanent residence were secondary migrants from Europe, as the distributions by country of birth indicate. In 1939, 82 per cent of the immigrant aliens were natives of European countries, and 16 per cent were born in countries of the Western Hemisphere. In 1943, the respective proportions were 38 and 60. In 1939, only 10 per cent of the immigrant aliens were natives of Canada, as compared with 30 per cent in 1943. Natives of Mexico comprised 3 per cent in 1939 and 17 per cent in 1943. It should be pointed out that these relate to Mexican immigrant aliens entering the country through regular immigration channels for declared permanent residence. This immigration is quite apart from the special importation of Mexicans during 1943 for temporary work as farm laborers, discussed in a later section.

State of Intended Residence.—With the reduction in the importance of immigrants of European origin has come not only a reduction in the percentage of Hebrews, previously discussed, but also a reduction in the percentage of persons giving New York State as the intended residence. In 1941, 51 per cent made this declaration, but this proportion dropped to 43 in 1942 and to 31 in 1943. Among the Hebrews, mainly natives of Europe, there has been no comparable reduction in the proportion intending to settle in New York State: about 70 per cent in 1941, 71 in 1942, and 68 in 1943.

On a broad regional basis, 62 per cent of the immigrants of 1943 designated northern states as future residences, 15 per cent southern states, and 23 per cent western states. Aside from New York, however, the only individual states mentioned as future residences by as many as 5 per cent of the immigrant aliens in 1943 were Michigan (8 per cent), Texas (8 per cent), and California (15 per cent). The Mexican immigrants account for the popularity of the latter two states.

Naturalization.—Whereas the outbreak of war served to reduce the volume of immigration, it stimulated the naturalization of resident aliens. During 1939, only 188,813 certificates of naturalization were issued. The number was 235,260 in 1940; 277,294 in 1941; 270,364 in 1942; and 317,508 in 1943. The number for 1943 includes 36,049 cases of naturalization of members of the armed forces within the United States. In addition, 1,425 in the armed forces were naturalized overseas, bringing the total civilian and military naturalizations to 318,933.

Departures During 1943.—Since the war there has been a marked reduction in the number of emigrant aliens: 26,651 in 1939, 7,363 in 1942, and only 5,107 in 1943. Over four-fifths of the emigrant aliens in 1943 were cases of deportation. Of the 4,207 deportations, 2,905 were destined for Mexico. The outstanding cause of deportations in 1943 was that of entering the country without valid visas.

MEXICAN AGRICULTURAL WORKERS

The shortage of agricultural labor since our entry into the war has stimulated an interesting experiment in international or bilateral agreements regarding importation of agricultural workers for temporary periods. As described by the annual report of the Immigration and Naturalization Service for the fiscal year ended June 30, 1943, "on August 4 [1942] an agreement providing guarantees for wage rates, living conditions, and repatriation of workers was entered into by the State Department and the Mexican Government. Similar agreements were made between the State Department and the governments of the Bahamas and Jamaica, B.W.I., on March 16 and April 5, 1943, respectively. In each case advance authority was granted by the Attorney General under the Ninth Proviso of section 3 of the Immigration Act of 1917, for the temporary admission of such farm workers. . . .

"On April 29 [1943] Congress approved an act, Public Law No. 45, which permits the entry of native-born agricultural workers from any Western Hemisphere country. Section 5 of that act exempts agricultural laborers from: (1) payment of head tax; (2) the literacy test; (3) the contract labor provisions; and (4) registration under the provisions of the Alien Registration Act of 1940. They must be in possession of an identification card, but are not required to have a passport or any other entry documents. Their admission is for temporary stay only and if they remain after it expires they will be subject to deportation in the usual fashion."

In addition, our Government entered into an agreement with Mexico on April 30, 1943, concerning the importation of railroad track laborers. By June 4, 1943, the number of agricultural workers who had entered this country under the above-described agreements was 42,057, of whom 30,117 were Mexicans, 8,819 Jamaicans, and 3,121 Bahamans. By June 30, the number of railroad track workers admitted had reached 7,068.

Up-to-date official figures on the number and distribution of these workers can not be supplied. Carey

McWilliams, formerly chief of the Division of Immigration and Housing in California, estimated in August that by the end of 1943 there would be some 50,000 Mexican agricultural workers in this country and that 33,000 would be in the "great farm factories" of California alone (*Inter-American,* August, 1943). Whatever the exact numbers, the Mexican agricultural laborers appear to be mainly in the western states and Texas. Substantial numbers of the Jamaicans and Bahamans are reported to be in New Jersey, New York, and Connecticut.

The present plan is a distinct advance over the situation during the First World War, when large numbers of Mexican laborers responded to private offers for employment in this country and found themselves stranded after the war. Under the present agreements the rights and obligations of the two governments and of the employers and employees are clearly specified at the outset. To secure laborers under the system, several farmers must organize themselves into employer associations, submit their application for given numbers of workers for a specified period of time, and agree to the terms of the contract. The terms of the contract include a guarantee by the farmer that employment will be provided at least 75 per cent of the worker's time, exclusive of Sundays. The farmer also guarantees that prevailing wages will be paid (but in no case less than 30 cents per hour) with 10 per cent of all earnings deposited to the worker's credit in the Bank of Mexico. Further, the contract includes provisions that the worker is entitled to the protection of the United States labor laws and workmen's compensation insurance, and that there will be no discrimination in employment because of race, creed, color, or national origin. The Farm Security Administration of the U. S. Department of Agriculture has been designated as the executive agency for this country, and in this capacity receives the applications from employers, apprises the Mexican government of the numbers of laborers desired, and signs the contract with each migrant.

The Mexican Government recruits applicants and selects individuals meeting requirements with regard to health, experience in agricultural work, etc. The Mexican laborers have been restricted to men; families are not accepted. According to McWilliams, the majority of the successful applicants are 20-30 years of age, and only 2 per cent have ever been in this country before. The Government has shown a preference for workers in interior rather than in border provinces.

Since our Government has assumed so much responsibility in this project, constant inspections are made in the field. Those close to the undertaking are reported to be enthusiastic over its success. Some believe that it provides a key to post-war problems of migration from Mexico, and that the plan has already served a useful international purpose.

REPEAL OF CHINESE EXCLUSION ACTS

Congressional action in repealing discriminating immigration laws against the Chinese was one of the outstanding developments in race relations during the year. On Oct. 21, 1943, the House of Representatives passed the bill H.R. 3070, which had been introduced by Representative Warren Magnuson of Washington. On Nov. 26 the bill was passed by the Senate and it was later signed by President Roosevelt. Considerable interest had been aroused during the year by the demand for the repeal of the Chinese exclusion acts, and various resolutions on the subject had been presented in Congress.

As finally passed, the bill provides for the repeal of the Chinese exclusion acts, puts the Chinese on a quota basis of immigration, and makes them eligible for citizenship. This law does not mean the unrestricted admission of Chinese into the country; its significance lies in the fact that our immigration regulations no longer discriminate against the Chinese because of race but put their entry on an annual quota basis, as was done with many other nationals by the Immigration Act of 1924. The Chinese, of course, still have to meet all the requirements of our immigration laws in regard to health, literacy, financial status, and similar qualifications.

In one important respect the new law differs from regulations governing the admission of other nationals. The annual quota is granted to Chinese and not to China, so that the immigration quota applies to all persons of Chinese descent whether they are residents of China or of some other country. In the case of other nationals, admission is charged to the quota of the country of residence and not to the race of the individual. It is expected that in the actual working out of the law, about 75 per cent of the quota will consist of Chinese born and residing in China, while the remainder will consist of Chinese residents of other countries.

Passage of the present bill nullifies a long series of Chinese exclusion acts that date as far back as 1882. The Exclusion Act of May 6, 1882 provided that all immigration of Chinese laborers should be suspended for ten years and also prohibited any state or Federal court from admitting Chinese to citizenship. At the expiration of this act in 1892 it was renewed for another ten years, and again in 1902. Furthermore, in 1904, upon the expiration of an existing treaty with China, Congress voted to extend and continue without modification or limitation all Chinese exclusion acts then in force. Entry was permitted to certain classes, such as government officials and their families, merchants, teachers, and students, but all who were not specifically listed as exempt were considered laborers and hence were denied admission. (For a more complete discussion of Chinese immigration, see Lawrence G. Brown's *Immigration,* Longmans, Green, N. Y. 1933.)

Restrictions against the Chinese were further tightened by the passage of the immigration acts of 1917 and 1924. The former excluded natives of the so-called "Asiatic barred zone," which comprised southern Asia and adjacent islands. It also provided that exempt persons, such as students and merchants, must maintain the status under which they had been admitted as long as they remained in the country. Previous to that time exempt persons were able to enter the United States as members of a favored class and then change to occupations not exempt. The quota law of 1924 effectively prevented immigration of Chinese as permanent residents by denying admission to any alien ineligible for citizenship unless he belonged to an exempted class. By this act Chinese living in a country having a national quota could not enter under that quota. These and other discriminations have long caused resentment and ill-feeling among the Chinese, and during the present war they have offered the Japanese a carefully exploited field of propaganda.

The admission of Chinese on a quota basis will have little effect upon the character of immigration into the country or upon the composition of the population in the various states, because under the new provisions only 105 Chinese will be eligible for entry each year. Although the majority of Chinese reside in the West, this concentration is not so decided as it is among the Japanese. In 1940, 60 per cent of the total 77,504 Chinese in the country were living in the West, in contrast to 95 per cent of all the Japanese; 33 per cent of the Chinese, but only 4 per cent of the Japanese, were in the East. However, like the Japanese, the Chinese have tended to congregate principally in California, which ranked first in number of Chinese in 1940 with 39,556 or 51 per cent of the total. New York came second with 13,731, and California and New York together contained nearly 69 per cent, or more than two-thirds, of all the Chinese in the country.

Chinese in the United States are mainly an urban people and tend to concentrate in a few large cities. In the West, San Francisco is the center of the Chinese group; the metropolitan area of that city contains 23,215 of the total 39,556 Chinese in California. In the East, the Chinese have congregated mainly in New York City, which contains 12,753 of the 13,731 in the state. In the nation as a whole, 91 per cent of the Chinese were classified as urban in 1940, and only 9 per cent as rural. According to the 1940 Census, 48 per cent of the 77,504 Chinese in the United States were foreign born and among this group there was an unusual predominance of males. Among the entire Chinese group there were 285 males per 100 females; among the native born there were 177; but among the foreign born the ratio was 570 per 100 females.

Although the present law will not open wide the doors to Chinese immigration, it takes away from the Chinese the stigma of disqualification because of race. At the same time it may be effective in silencing Japanese propaganda, which has been trying to use the exclusion acts as a means of creating friction between China and her allies. President Roosevelt declared on Oct. 11 in his message to Congress on the repeal of the Chinese exclusion acts: "Nations, like individuals, make mistakes. We must be big enough to acknowledge our mistakes of the past and to correct them."

RESETTLEMENT OF JAPANESE-AMERICANS

Nearly two years have passed since the removal of Japanese from the Western Defense Area to ten relocation centers. During 1943 the two most significant aspects of the relocation program were the segregation of loyal from disloyal Japanese, and the increased effort to resettle loyal Japanese-Americans in permanent homes outside the relocation centers.

Separation of the evacuees on the basis of loyalty to the United States was recommended by both of two Congressional investigating committees and was directed by Senate Resolution 166, early in July. The program of segregation, put in operation early in September, involves transferring the "disloyal" Japanese to the Tule Lake Center in northeastern California, and the removal of "loyal" Japanese from that Center. Japanese who are being sent to the Tule Lake Center include: (1) those who have stated that they wish to reside permanently in Japan; (2) those who have refused to declare their loyalty to the United States and to renounce allegiance to any foreign government; (3) those who have sworn allegiance to this country but whose loyalty is under question; and (4) those who wish to live at Tule Lake in order to be with their families.

Precise figures on the number of Japanese who have been or are to be transferred to Tule Lake are not yet known, but present data indicate that the proportion of disloyal Japanese among the evacuees is very small. Those who have expressed a wish to return to Japan and who will be among the first to be removed to Tule Lake number about 6,300 out of a total of more than 110,000 evacuees. Definite provisions have been made whereby those classed as loyal may be investigated if questions arise concerning their status, and whereby those classed as disloyal may appeal the decision to a specified Board of Review. Officials of the War Relocation Authority have emphasized that segregation is not a form of punishment or retaliation. According to a September report on the activities of W.R.A., issued by James F. Byrnes, Director of War Mobilization, ". . . the segregation center is not to be confused with the isolation center maintained at Leupp, Arizona. As a group the segregants will be law-abiding persons who have simply given up trying to become adjusted to the United States. Any persons at the segregation center who show persistent trouble-making tendencies will be transferred to the isolation center."

As the result of the segregation program, the W.R.A. hopes to speed the resettlement of evacuees in normal homes in communities outside the evacuated area. The W.R.A. has worked out a program whereby Japanese whose loyalty to the United States has been established may be granted indefinite leave from a center. In February and March, 1943, the W.R.A. held a mass registration of all Japanese in the relocation centers who were over 17 years of age and who had not applied for repatriation to Japan. Information obtained from this questionnaire is used as the basis for determining eligibility for leave. According to the September report of the W.R.A., at that time about 10,000 evacuees, including 900 college students, were on indefinite leave from the relocation centers. Others were also on seasonal leave or away on short work permits, usually as agricultural workers.

Successful establishment of the Japanese in new communities depends upon the cooperation and understanding of the residents of that community and upon the attitude of the Japanese themselves. Many of the evacuees are reluctant to leave the relocation centers because they fear they may encounter prejudice and indignities in their new homes. Moreover, since the evacuees are cared for by the Government, life in the centers provides a sense of security that some of the Japanese are hesitant to relinquish. Then, too, many of them hope to return to the Pacific Coast after the war and hence are unwilling to settle permanently in other sections of the country.

In establishing the evacuees in new homes, the W.R.A. has had the assistance of several private agencies, such as the American Friends Service Committee, the Federal Council of Churches, and societies of the Baptist and Lutheran churches. These agencies have tried to develop favorable community attitudes toward the newcomers, and several of them have established hostels in Chicago, Cleveland, and Cincinnati, where evacuees may stay for a nominal fee while they are finding work and homes. The Japanese-American Students Relocation Council was organized to help Japanese students continue their education outside the evacuation area. By the summer of 1943, more than 280 colleges and universities in 38 states had accepted Japanese-American students. (Pickett, Clarence E. and Homer L. Morris: "From Barbed Wire to Communities," *Survey Midmonthly*, August, 1943.)

During the year the work of the W.R.A. received considerable criticism from members of both Houses of Congress. Senate Resolution 101 authorized an investigation of the relocation centers by the Senate Military Affairs Committee. From January to April the Committee inspected six of the ten centers and held hearings on their work, organization, administration, and policies. The Dies Committee also carried on a survey of the centers. (For discussion of these investigations and the recommendations resulting from them, see "Common Council for American Unity," *Interpreter Releases*, Aug. 30, 1943, vol. 20, No. 32.) In view of the frequently one-sided criticisms and unfortunate publicity that accompanied some phases of these investigations, it is encouraging to note that a thorough scientific study of the evacuation and the relocation program is being made by the Evacuation and Resettlement Study of the University of California. This study is making a serious effort to understand the effect of this unusual migratory movement upon the individuals concerned, upon group life in the relocation centers, and upon the communities in which the loyal evacuees are reestablished.

Another significant development during the year was the inclusion of a Japanese-American group in the United States Army. Although the War Department at first had forbidden the induction of people of Japanese ancestry, on Jan. 28, 1943 Secretary Stimson authorized the formation of the Japanese-American Combat Team. This unit is being trained at Camp Shelby, Miss., and at the time of the latest available report it included 2,800 Japanese-Americans from Hawaii and 1,207 volunteers from the relocation centers in this country. Since June 21, Japanese-American women who are citizens are being admitted to the Women's Army Corps. ("Common Council for American Unity," *Interpreter Releases,* Aug. 30, 1943, vol. 20, No. 32.)

The task of returning loyal Japanese citizens to normal activities in a normal community setting made progress during 1943 but was retarded by fear on the part of the evacuees and by prejudice and antagonism on the part of Americans. Officials of the W.R.A., however, insist that resettlement is a vitally important factor in the handling of the Japanese-American problem. The situation was summarized as follows by President Roosevelt in a letter to the Senate on Sept. 14: "Americans of Japanese ancestry, like those of many other ancestries, have shown that they can, and want to, accept our institutions and work loyally with the rest of us, making their own valuable contribution to the national wealth and well-being. In vindication of the very ideals for which we are fighting this war it is important to us to maintain a high standard of fair, considerate and equal treatment for the people of this minority as of all other minorities."

"ZOOT-SUIT" RIOT IN LOS ANGELES

In the field of race relations, 1943 brought disturbing signs of mounting tension and scenes of open violence between white and non-white Americans. The most serious outbreaks occurred during the summer in Los Angeles, Detroit, and New York. The so-called "zoot-suit" riot in Los Angeles was principally a clash between service men and Mexican youths during the first week in June. The situation reached the stage of an actual riot on the evening of June 7, when 1,000 or more soldiers and sailors, joined by some civilians, ranged up and down Main Street and through the Mexican section, attacking and maltreating Mexicans and some Negroes. The trouble subsided when the Navy put the whole city out of bounds for sailors and the Army ordered punishment by a military court for soldiers caught fighting in the streets.

Various interpretations of the underlying causes of the outbreak have appeared and various investigating committees have been appointed to determine the causative social conditions. Official and press reports have tended to picture the riot as the outcome of a serious increase in juvenile delinquency among Mexican youths addicted to wearing the exaggerated garb known as the zoot suit. According to this view, the service men were acting in self-defense or in retaliation for acts of hoodlumism by zoot-suiters. Other investigators have pointed out that the wearing of a zoot suit was only of minor importance, for not more than half of the victims were thus attired, and, moreover, the wearing of zoot suits has not been confined to the Mexican youth of Los Angeles. They have shown, too, that, although juvenile delinquency is a serious problem among Mexicans in Los Angeles, it has actually increased less among them during the war years than among other ethnic groups and less than in the city as a whole. These investigators place at least part of the responsibility upon the police and the press. They have noted that the police were of little protection to the victims of the mob during the riot. They charge, too, that certain elements of the press had long been stirring up sentiment against the Mexicans.

RACE RIOT IN DETROIT

On Sunday, June 20, Detroit was the scene of a riot even more serious in its scope and intensity than was the Los Angeles outbreak. The immediate cause of the riot is not absolutely clear but apparently there was a particularly violent clash between a white man and a Negro near the recreational center of Belle Isle. Excitement and rumors rapidly swept through both the colored and the white residential areas. During 24 hours of almost constant violence, stores were looted, automobiles set afire, more than 1,000 persons were arrested, hundreds were injured, and over 30 persons were killed. Most of those arrested or killed were Negroes. Upon the request of Governor Kelly, Federal troops were sent into the city, whereupon the violence subsided. Even after the arrival of the troops, however, thousands of Negroes remained away from their work in war industries until they felt safe in venturing outside the colored district.

It had been apparent for months that trouble was brewing in Detroit. War industries have attracted thousands of new workers there, both white and colored, many of them from the South. Housing and recreational facilities have been overcrowded and inadequate, so that whites and Negroes have competed for homes and good times. Wages have been high but consumer goods have been scarce, leading to further competition for available goods. Furthermore, Detroit has been a center of such anti-racial organizations as the Ku Klux Klan, the America First Party, the Black Legion, and the National Workers League. Among the Negroes the Ethiopian Pacific League has sought to promote friction by claiming that Japan is the champion of all colored races. Although the F.B.I. and investigating officials have reported no evidence that the Detroit riot was deliberately planned, the activities of these anti-racial organizations in wartime and in an overcrowded city have probably served to heighten tension between whites and Negroes. More basically, the riot was but one result of the impact of a war situation upon old attitudes and conflicts.

THE HARLEM RIOT IN NEW YORK

The immediate cause of the outbreak in Harlem on Aug. 1 was an altercation between a white policeman and a Negro military policeman in the lobby of a Harlem hotel, during which the colored soldier struck the white officer and the latter wounded the Negro. A crowd quickly collected, and the rumor swept through Harlem that a white policeman had killed a Negro soldier. As a result of the ensuing violence that lasted all night, at least five persons were killed, several hundred were injured, stores were looted, and property was damaged to the extent of several million dollars. Quick and determined action on the part of Mayor LaGuardia, the Police Commissioner and the police, and Negro leaders brought an end to the riot the following day.

Various authorities have reiterated that the Harlem trouble was not in the strict sense of the word a "race riot," for there were only occasional clashes between whites and Negroes, and the outbreak consisted mainly of looting stores, particularly those dealing in food and liquor. However, the mob directed its activities against property owned by whites, and the element of racial antagonism was obviously present. Leaders of both racial groups viewed the outbreak as fundamentally a bursting of pent-up resentment over long-standing injustices, brought to a head by indignities suffered by colored soldiers.

OTHER RACIAL OUTBREAKS

These were the three most severe outbursts of racial antagonism during the year, but there were also numerous clashes between white and Negro soldiers, between colored service men and white policemen and civilians, and between white and colored workers in industrial plants. Underlying these, as well as the three major conflicts, were the familiar factors of race prejudice and discrimination against minority groups. Old attitudes and conflicts have been intensified among both white and colored groups by the strains of a wartime existence. Migration of large numbers of individuals to war industrial centers has resulted in congestion of housing and transportation, inadequate recreational facilities, and a tense, competitive atmosphere. Probably, too, wartime emphasis upon freedom, democracy, and the rights of the underprivileged has added to the tension by strengthening the resistance of the colored group against past and present discriminations.

THE NEGRO IN WAR INDUSTRIES

Employment Trends.—In a release dated Oct. 16, 1943, the Minority Groups Service of the War Manpower Commission stated: "Employer reports indicate a slow but continued upward trend in the general level of employment of Negroes. . . . Negro workers in July 1943 represented 7.3 per cent of total employment in those major war establishments reporting nonwhite employment. In July 1942, a year ago, Negroes constituted 5.8 per cent of total employment in such establishments." The employer reports covered establishments employing some 12,000,000 people in July, 1942, and over 14,000,000 in July, 1943. Approximately 1,000,000 Negroes were employed in those establishments in July, 1943.

According to the same release, however, despite the increase in total employment of Negroes ". . . there is a serious time-lag both in the wider use of Negroes among many of the smaller individual firms and in the occupational upgrading of Negroes in all firms. This concentration of Negroes in a relatively few large firms, together with slow occupational progress generally, has had the effect of restricting the use of Negro workers as a means of meeting immediate labor needs. . . . In the shortage areas of the South, Negroes are concentrated in those establishments and occupations where heavy unskilled work is to be performed. . . . In the acute labor shortage areas of the North where war industries are much more diversified than in the South, the utilization of Negroes has progressed much further, but Negro employment is concentrated with respect to occupations, establishments, and industries."

Wage Differentials.—One of the traditional complaints of Negro leaders is that, particularly in the South, Negroes not only face heavy odds against upgrading but also receive lower pay than whites in the same type of work. On this latter point, however, at least a legal victory was won on June 7, 1943, when the National War Labor Board unanimously ruled that wage classifications based wholly on differences in race are invalid and ordered that differences in pay between whites and Negroes performing equal work be abolished. The Southport Petroleum Company of Texas City, Tex. was directed by the Board to accord wage increases to its Negro workers which would "place them on a basis of economic parity with the white workers in the same classification." As described in the *Monthly Labor Review* (July, 1943), the increases were ordered "without regard to the 'Little Steel' formula, but with regard simply for the formula of equal pay for work equal in quantity and quality in the same classification."

The F.E.P.C.—When the Fair Employment Practices Committee was first established in 1941, it was set up in the Office of Production Management. Some months later it was transferred to the War Production Board and next to the War Manpower Commission. On May 27, 1943, the President made the F.E.P.C. part of his Executive Office, "gave it enough funds to function independently for the first time, and fortified it with the new Executive Order 9346, which amplified the previous one, often called 'the Negro's economic charter'." (*Survey Graphic*, December, 1943.) The amplifications of Executive Order 9346 over that of Executive Order 8802 include the italicized portions below:

"All contracting agencies of the Government of the United States shall include in all contracts hereafter negotiated *or renegotiated* by them a provision obligating the contractor not to discriminate against any employee *or applicant for employment* because of race, creed, color, or national origin and *requiring him to include a similar provision in all sub-contracts.*"

The F.E.P.C. received a severe jolt on Oct. 28, 1943 when Comptroller General Lindsay C. Warren ruled that the word "shall" could be regarded as directory rather than mandatory. On Nov. 6, however, the

President declared that Executive Order 9346 *was* mandatory. Nevertheless, some of the friends of the F.E.P.C., especially those desiring to have its work continued after the war, are seeking Congressional passage of a Fair Employment Practices Act. Such a bill has been offered in the House by Representative Marcantonio of New York.

A much publicized case of defiance of the F.E.P.C. during 1943 was that by a group of 16 railroads of the South. The preliminary hearings of this case were held in Washington in September. Marked temperateness appears to have characterized the testimonies on both sides. Negro firemen who had seen decades of service with the railroads of the South told how they were being deprived of seniority rights, of being debarred from all-white unions, of their vain efforts to secure railroad employment for their sons. They told of the union-carrier agreement "to keep Negroes off the Diesels," with the result that when conversions are made on crack trains the Negro firemen are "rolled" to hand stokers on less desirable runs. Neither the unions nor the carriers made any attempt to deny the submitted evidence of concerted and deliberate discrimination. (The unions took no part in the proceedings.) The spokesman for the carriers acknowledged that the witnesses introduced by the F.E.P.C. lawyers "by and large have testified to facts" and that the presentations had been kept on a high plane. The basic element of his defense, however, was that "utopian equality" was not feasible on the southern lines until our civilization as a whole had progressed.

As a result of the hearings, the F.E.P.C. issued findings and directives on Dec. 1, 1943. The carriers and the unions involved were found to be violating Executive Order 9346. They were directed to cease discriminating against Negroes and to advise the Committee within 30 days regarding steps taken to comply. On Dec. 13, 1943, the carriers issued a statement to the effect that compliance with the directive was impossible and impractical since it would disrupt relations with their employees, antagonize the traveling and shipping public, and interrupt their war efforts. Furthermore, the carriers claimed that the F.E.P.C. was without constitutional and legal jurisdiction and power to enforce the directive. (*Interpreter Releases,* Dec. 23, 1943.) At the close of the year the case was pending the disposition of the President, who was expected to consult with Attorney General Biddle regarding the next step.

THE NEGRO IN THE ARMED FORCES

This section of THE AMERICAN YEAR BOOK for 1942 recorded the Navy's breaking a precedent in 1942 by announcing that Negro volunteers would be accepted as reservists in the Navy. This was a significant change from the traditional policy of accepting Negroes only for messmen and other menial duties. A further development can be reported for 1943. On Feb. 1, when the man-power requirements of all the armed services were channeled through Selective Service, the Navy began accepting a designated ratio of Negro draftees. Under this new system the Navy gets one white man for every 4.4 sent to the Army and one Negro for every 10.5 designated for the Army. According to Lieut. Commander William G. Morrison, naval recruiting officer for the New York district, the physical and mental entrance requirements exacted of all Navy personnel are observed, and once a Negro is accepted he is sworn in as an apprentice seaman and sent for eight weeks to the Great Lakes Training Station, Great Lakes, Ill., where special barracks are provided. On graduation, he is designated a seaman, second class, and further progress depends on the individual.

Liberal advances in race policy are also seen in the Army. Foremost in this respect is the passing of the segregated officer-training schools for Negroes. Negro officer candidates now train with whites, even in the

South where the officer schools are located in large numbers.

Segregation, however, is the general rule for Negro troops, and the Negro officers return to these units on the completion of their training. Nevertheless, the strongest critics of military race policy readily state that the Negro troops receive more equitable treatment than in the last war, when only a small minority were given opportunity to serve outside labor battalions.

On the other side of the picture are the many reports of violence suffered by Negro soldiers at the hands of white policemen and civilians. A frequently expressed grievance is that Negro soldiers, being stationed mainly in the South, are subjected to constant humiliations and assaults in buses, trains, and on the streets. Writers claim that all over the country Negro families are receiving from their sons and relatives in service letters which give accounts of these instances, and that the effect has been to undermine the morale of the total Negro population, to start floods of rumors, to make the Negroes uncertain as to what they are fighting for. Many of these rumors are fantastic but their spread is a matter of deep concern to all Negroes and whites who try to approach racial problems intelligently.

LEGISLATION AFFECTING MINORITY GROUPS

Aside from the passage of two bills relating to the immigration of Chinese and of agricultural workers, discussed in preceding sections, the 1943 record of Congressional accomplishment in regard to minority groups is meager. Several bills were introduced in the House providing that the privilege of naturalization should be granted to natives of the Philippine Islands. A bill introduced by Representative Marcantonio, H.R. 2011, proposes that the right to become a naturalized citizen "shall not be denied or abridged because of race, color, creed or national origin." Other bills advocated simplification of naturalization requirements for foreign-born parents of members of the armed forces. Proposals for the elimination of the educational requirement for naturalization in the case of certain elderly foreign-born residents are again before Congress.

The year 1943 witnessed the usual introduction of bills representing the anti-racial sentiments of particular sections of the country. Many of these were directed against the Japanese and make such proposals as taking all Japanese into custody for the duration and deporting various groups of Japanese after the close of the conflict.

Among the miscellaneous resolutions brought forward by members of Congress were several dealing with the admission of refugees from Europe. One of these, Senate Resolution 203, was introduced by Senator Gillette of Iowa and was sponsored by nine other Senators. It proposes that the President create a commission of "diplomatic, economic and military experts to formulate and effectuate a plan of immediate action designed to save the surviving Jewish people of Europe from extinction at the hands of Nazi Germany." It was referred to the Senate Committee on Foreign Affairs. Similar bills, H.R. 350 and H.R. 352, were introduced in the House by Representative Baldwin of New York and Representative Rogers of California, respectively. ("Common Council for American Unity," *Interpreter Releases,* Dec. 14, 1943, vol. 20, No. 46.)

Final action in regard to the anti-poll tax bill still remains among the unfinished business of the Seventy-eighth Congress. This bill would abolish any requirements by which voters must pay a poll tax before voting for Federal officials as provided by state law. It was passed by the House but has been held up in the Senate. It was slated to come up for debate in the Senate during January, 1944, but there were threats of a filibuster by Southern Senators.

AMERICAN INDIAN AFFAIRS

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INDIAN POPULATION

According to present estimates there are some 430,000 Indians in the United States and Alaska, of whom 401,384 are under Federal supervision. Their population had been declining for so many decades that our Indians came to be commonly referred to as a vanishing race. This trend has reversed itself and they are now increasing faster than the population of the United States as a whole. Evidence indicates that there has always been a high birth rate among Indians but there was also, following the close of the Indian wars and the confinement on reservations, an even higher death rate. While this death rate has dropped 53.3 per cent in the last 12 years, it is still higher than the general rate for the nation (14.7 per thousand for Indians as against 10.5 per thousand for the United States.) The indicated net increase for the Indian population is one per cent per annum as against .7 per cent for the United States.

ADMINISTRATION

Indian affairs are administered within the Department of the Interior under the immediate supervision of a Commissioner who is appointed by the President. There is a central staff, now located in Chicago, and 78 field agencies, of which 14 are boarding schools and hospitals not attached to an Indian reservation. It is a highly decentralized service, as may be inferred from the fact that, out of a total of about 11,000 employees (including part-time and irregular), only 300 are attached to the central office. The current operation budget (fiscal year 1944) carries a total of $27,257,586, representing a reduction of $1,463,491 from the prior year's appropriation.

THE WAR RECORD

The contribution of the Indian people in the Second World War grows in impressiveness. Any review of Indian affairs for 1943 which did not emphasize this fact would be out of focus.

Present information indicates that 18,000 men are in the Army alone. Separate statistics on Indians are not issued by the other branches, but it seems safe to assume that the total of Indians in the Navy, Marine Corps, and Coast Guard, not omitting the 100 or more women who have joined the auxiliary services, when added to the Army total, will make an aggregate of 20,000 Indians in military status. What this has meant to the Indian home front is revealed by these facts: Many Indian reservations report that 30 per cent of the able-bodied men of military age have gone to war; others report 40 per cent, and the rate runs as high as 60 and 70 per cent.

This is only part of the drain on manpower. Additional thousands of men, women, and children have left their reservation homes to go into war industries and into agricultural work. The Superintendent of the Navajo Reservation, for instance, reports that 9,350 men, out of a total reservation population of 50,000, are employed off the reservation as railroad section hands, in copper and coal mines, in ordnance plants, and elsewhere. Incomplete estimates indicate that as many as 43,000 Indians are probably away from home at the present time.

It is remarkable that such an unparalleled number of people taken away from the reservations has not resulted in disastrous abandonment of farms and livestock operations. Actually, the output of farm and livestock products has increased. Older men, women, and children carrying the full burden have produced more from Indian lands in the last two years than was produced in any similar period before. On the basis of Army rations, Indians marketed enough beef, mutton, poultry and fish to feed 220,250 soldiers for one year; enough cereal grains to feed 367,103 for a similar period; vegetables to feed 52,057, and wool to clothe 19,000.

No complete record is available of war bond purchases by Indians. Only bonds purchased with funds under the jurisdiction of the Federal Government are tabulated, and purchases within this category, by individual Indians and by tribes, total $5,000,000. There are stories of Indian women walking many miles to purchase war stamps.

The records of individual Indians in combat have reflected outstanding skill and bravery. Indians were in the Philippines in the first days of war and distinguished themselves at Bataan. Major Gen. Clarence L. Tinker, commander of the Army Air Forces in Hawaii, a member of the Osage Tribe, blazoned an example for all high ranking officers when he flew at the head of his squadron into the thick of the Battle at Midway and was never seen again. Lieut. Commander John C. Waldron, a Sioux Indian in the same Battle of Midway, commanded the heroic Squadron 8 from which only one man returned alive. A great number of Indians have been awarded the Distinguished Flying Cross for "extraordinary achievement," the Air Medal, and the Order of the Purple Heart.

THE ALEUTIAN NATIVES

At the close of 1943 plans were being made to restore to their homes many of the Aleut natives who had been removed before the threat of Japanese invasion. The islands of Atka, Akutan, Kashega, Makushin, the Pribiloffs, and Unalaska were evacuated and the people resettled in villages in southeastern Alaska. There they were furnished lumber and tools with which to build "duration" homes. Though for most part these natives live in barren areas and have no familiarity with timber or its products, they proved to be excellent carpenters and built many houses from foundation to roof in a single day, complete with electric wiring, hardware, windows and doors. Furnishing their own labor and working cooperatively together, the average cost per house was less than $150. First to return to their native habitat were the Pribiloff islanders, who are essential to the operation of the fur seal reserve established on their island home. Other Aleuts will be returned at an early date, it is hoped.

THE HOME RECORD

Indian spirit has been steadily mounting for the last ten years, and this strengthening of morale at home is doubtless responsible for the fine showing abroad. These have been years of planning between Indian Service and the Indian people. Lands have been purchased where most sorely needed, irrigation works have been developed, forests have been brought under closer management, eroding lands have been reseeded and protected against further wastage. By making credit funds available in amounts sufficient to meet the most ambitious programs of use, Indians in effect have been given access to resources which formerly lay fallow in their ownership. As of the present time, more than 5,000 loans totaling over $3,000,000 have been made through Indian chartered corporations or directly from the Federal Government to individual Indians. In some instances the tribal corporation borrows to finance enterprises which it operates in behalf of the tribe. It is reported that repayments are less than five per cent delinquent.

INDIAN LAND AND OTHER SERVICES

Irrigation water was supplied to 540,000 acres of farm land on Indian reservations west of the Mississippi River. These lands, used by Indian and non-Indian farmers, have produced food and forage crops valued at more than $20,000,000. In connection with its irrigation projects, Indian Service also operates some hydro-electric power plants furnishing electric energy for domestic and industrial use.

The mineral output from Indian lands is extensive; it includes petroleum, coal, asbestos, helium, vanadium, lead, zinc, copper, gypsum, and other strategic materials. As many as 900 mining leases were approved in the course of the year, while revenues from mining operations amounted to approximately five and a half million dollars.

Indian-owned forests yielded a cut of 500,000,000 board feet of lumber, valued at $2,000,000. This timber included Sitka spruce, used in the construction of training planes; elm and oak, used in ship construction; and Douglas fir and Western hemlock, from which is made plywood for airplane construction. The largest single lumbering operation is that of the Menominee Mill at Neopit, Wis. Faced with a serious man-power shortage in 1943, Menominee Indian women took many jobs in the mill and in the woods, and so prevented a possible shut-down.

The only roads built by the Indian Service in the past year were access roads leading to important war materials. Thus a road constructed on the Navajo Reservation resulted in doubling production of a vanadium mine. Other roads have made possible increased timber operations.

INDIAN HEALTH SERVICE

The Indian Health Service was seriously handicapped by a shortage of physicians and nurses. At least 50 physicians and 150 nurses have left the Service, usually for war work, and few replacements have been obtained. Four Indian hospitals were closed during the year but this did not reflect a loss of bed space, since the Service completed construction of its Tacoma, Wash. hospital. This, the largest hospital now operated by the Indian Service, contains 350 beds and a fully equipped out-patient department; it is designed to serve the Indians of the Northwest and Alaska.

Important research was carried out by the medical service in the field of nutrition deficiencies. Various plants for supplying the deficiencies found in native diets were investigated. In one area, fish ponds were installed with a view to supplying fish as a source of nutritive values now lacking in the diets.

Indian Service field physicians continued their brilliant work in the use of "sulfa" drugs in the treatment of trachoma. It is intended that the record of the discovery and use of sulfanilamide as a method of combatting trachoma will soon be published in a medical paper.

DEVELOPMENT OF SELF GOVERNMENT

The maintenance of law and order on Indian reservations has to an increasing extent been vested in the Indians themselves, operating through tribal courts and tribal police. The tribes are encouraged to adopt law and order codes, which in many respects resemble municipal codes. Thus, all misdemeanors and minor felonies and all civil actions between Indians, on Indian lands, are tried by Indian peace officers under codes of their own making.

Law and order is only one phase of the broader subject of self-government, which the Indians have been encouraged to develop in the past decade. A total of 167 tribal constitutions (including 44 village constitutions in Alaska) have been written and adopted by Indians since 1935. The impetus for tribal organization was contained in the Act of June 18, 1934, which provided that tribes might organize to exercise certain inherent powers as well as additional bestowed powers. These latter included the right to choose attorneys, to adopt charters of incorporation, and to veto any sale, lease, or disposition of tribal property proposed by any agency of the Federal Government.

RESETTLEMENT PROBLEMS

As might be expected, the war has imposed many special burdens on the Indian Service and has seriously altered conditions under which its work is carried on. Reductions in the budget have been in a sense the least difficult of the problems faced. More serious have been, for example, the situations resulting from the evacuation of Indian families. Although the situation among the Alaska natives had become easier toward the end of the year, Indians elsewhere had also been displaced. On the Pine Ridge Reservation in South Dakota, 400,000 acres were sold to the War Department to be used as a bombing range. Within this area 128 Sioux families had to be removed and settled on other lands. Smaller areas were either sold or leased to the War Department on the Kiowa Reservation in Oklahoma, the Tulalip Reservation in Washington, the Pima and Papago Reservations in Arizona, the Blackfeet Reservation in Montana, Fort Hall Reservation in Idaho, on Pueblo lands in New Mexico, and on lands belonging to the Five Civilized Tribes in Oklahoma. These land transfers did not always require resettlement of people but they did in all cases result in reduction of Indian resources.

The loss of experienced employees to military service and to war industries posed special problems. In an effort to acclimatize new employees, an in-service summer school was conducted at Haskell Institute which offered courses designed especially to help teachers adjust themselves to wartime conditions. One of the most popular classes, attended by 75 women teachers, gave training in repairing and maintaining mechanical equipment, including refrigerators, stoves, plumbing and laundry facilities.

The WRA operated Japanese relocation centers on three areas of Indian land—Colorado River Indian Reservation, Gila River Reservation, and the Leupp School on the Navajo Reservation. The Indian Service itself operated the Colorado River Center, which was the largest of the ten projects organized under the WRA. Here through the year a heavy construction program was carried out, consisting of irrigation canals, laterals and drains, the subjugation of land, the building of a trunk highway and many miles of secondary roads and streets, the building of schools and administrative quarters and all the sanitary facilities for a city of 20,000 people.

MISSION TO SAUDI, ARABIA

The chief engineer of the Indian Service, A. L. Wathen, participated in an agricultural mission to Saudi, Arabia, authorized by the Department of State. The experience which the Indian Service had gained over many years in developing water resources in our arid southwest and in formulating land management techniques was found to be particularly fitted to the type of reconnaissance made by this party. The mission traveled more than 11,000 miles by automobile, donkey, and camel, and in its final report was able to offer a number of specific suggestions. The visit of the Americans was returned in the summer by members of the King's household, for whom a tour of Indian reservations in the southwest was arranged. The mission's report was published by the State Department in English and in Arabic.

UTE CLAIM TO COLORADO LANDS UPHELD

Two important opinions bearing on Indian matters were rendered during the year. The Court of Claims on Oct. 4, 1943, upheld the right of the Confederated Bands of Ute Indians of Colorado and Utah to receive compensation for several million acres of land in western Colorado taken by the United States by an Act of Congress in 1938. This brought to successful issue a contest arising out of the terms of an agreement made in 1880, when the United States compelled the Ute Indians to abandon an area of 15,000,000 acres, previously set aside for them by treaty in 1868. The United States, acting through Congress, had persistently treated these ceded lands as if they were public lands and as if Indian title could be dismissed as of no consequence. The court was critical of the Government for exercising its sovereign immunity to do "substantially as it pleased with the land . . . without consultation with the Indians. . . ." It held that the Ute Indians were entitled to recover the value of all lands taken.

RACE DISCRIMINATION IN ALASKA

Equally interesting was an opinion of the Attorney General for the Territory of Alaska, holding that "The right of all children in the Territory, of whatever color, race, complexion, or sex, to its educational facilities, must be equal under its laws." The decision has an important bearing on the question of racial discrimination which has been in evidence in the Territory for some time. Alaska Indians and Eskimos have taken an active part in the efforts to reduce discriminatory treatment. In making his decision, the Territorial Attorney General pointed out that "Indians and Eskimos, both male and female, pay the territorial school tax and their property is subject to the same taxation as that of whites, and under the Fourteenth Amendment and the Civil Rights Act are entitled to the equal protection of the Territory's laws." Further, he said: "The fact that the Federal Government operates 'native' schools in the Territory under the direction of the Secretary of the Interior, is none of the Territory's concern and does not militate against the right of colored children or those of mixed blood to avail themselves of the facilities of the Territorial schools."

INTER-AMERICAN AFFAIRS

The National Indian Institute, created by Executive Order of the President of Nov. 1, 1941, serves a dual function: (1) it cooperates with the Inter-American Institute at Mexico City, serving as liaison between that body and various private and governmental agencies in the United States, and (2) as an agency of the United States Government, it supports programs of its own. In its liaison capacity, it negotiated with the Pan-American Sanitary Bureau and other interested agencies in establishing a project to study methods for the control of onchocercosis, an eye malady peculiar to the Indian population in Central America, especially in the regions being opened by the Pan-American highway. The Institute is now cooperating with the Republic of El Salvador in plans to introduce soy beans in the diet of the rural population of that country and it is also assisting in procuring medical instruction for native medicine men in certain Indian areas in Central America.

The Institute is charged with the duty of disseminating information on Indian life, and in this connection it has issued a series of publications dealing with Indians in the United States. The material is published in Spanish and is distributed widely in Latin America. The Institute arranged for the training of five educators, seven soil conservation specialists, and seven economists, all from Latin America, in collaboration with the Bureau of Agricultural economics and the Soil Conservation Service. The actual field training was provided by the United States Indian Service. With the Coordinator of Inter-American Affairs, the Institute is preparing a film on Indian life in the United States which will be distributed in Latin America.

PUBLICATIONS

The Indian Office has issued a revised book list of recommended reading for schools and has compiled a bibliography of materials for schools in wartime. Its long awaited publication, *Earth Brick Construction* by Elbert Hubbell, a specialist in the use of native materials, appeared in 1943. The booklet contains instructions, plans, and illustrations in the use of adobe and asphalt stabilized earth bricks. A fourth booklet in the Indian handicraft series, *Crafts of the Ojibways* by Carrie E. Lyford, was published. Ann Nolan Clark continued her series of bi-lingual readers, issuing the *Pine Ridge Porcupine, The Slim Butte Raccoon, The Grass Mountain Mouse* and *There Still Are Buffalo*.

POST-WAR PLANNING

At a series of meetings during the summer, field agency staffs discussed plans for the post-war years. Following these meetings, the Commissioner of Indian Affairs, on Nov. 15, 1943, issued a statement calling on Indian Service personnel to devise broad programs of action, looking to the full development of Indian democracy and equality within the framework of American and world democracy. The statement suggested that the Indians and the Government should make full use of the Indian tribe as a form of social organization and as a legal instrument, in the name of which are vested certain property rights. The tribe is essentially a community, much as a rural area or a municipality is a community in the accepted American sense. While using this tribal community as a unit of local civic self-government and as a business corporation, it is believed that Indians can be made more actively participating members of society than was ever possible in the past, when the emphasis of government administration of Indian Affairs was centered on isolating and individualizing the Indian in his property and in his outlook. Cultural diversity is by no means inimical to national unity, and it should be left to the Indians to determine whether they shall continue to be tribally organized and whether they shall assume as tribal groups responsibilities which the Government may transfer to them. In time, for those tribes which are willing to go forward as municipal communities, the Federal Indian Service will recede until it assumes a purely advisory position. The individual Indian, at the same time, will have gained in stature as a citizen and as a producer of economic goods.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. ON INDIAN AFFAIRS, INC., 381 Fourth Ave., New York City.

AMERICAN COLONIZATION SOCIETY, 514-6 Colorado Bldg., Washington, D. C.

AMERICAN ETHNOLOGICAL SOCIETY, Columbia University, New York City.

AMERICAN EUGENICS SOCIETY, INC., 1790 Broadway, New York City.

AMERICAN JEWISH COMMITTEE, 386 Fourth Ave., New York City.

ANCIENT ORDER OF HIBERNIANS IN AMERICA, 1648 Westmont Ave., Pittsburgh, Pa.

BIRTH CONTROL FEDERATION OF AMERICA, INC., THE, 501 Madison Ave., New York City.

ENGLISH-SPEAKING UNION OF THE U. S., 30 Rockefeller Plaza, New York City.

FEDERATION DE L'ALLIANCE FRANÇAISE, 22 E. 60th St., New York City.

FEDERATION OF POLISH JEWS IN AMERICA, 225 W. 34th St., New York City.

HEBREW SHELTERING AND IMMIGRANT AID SOCIETY OF AMERICA, 425 Lafayette St., New York City.

HOLLAND SOCIETY OF N. Y., 90 West St., New York City.

Huguenot Society of America, 122 E. 58th St., New York City.

Indian Rights Assn., Inc., 301 S. Seventeenth St., Philadelphia, Pa.

Inter-American Indian Institute, The, Londres 64, Mexico City, D.F.

Jewish National Workers' Alliance of America, 45 E. 17th Street, New York City.

Jewish Welfare Board, 220 Fifth Ave., New York City.

Milbank Memorial Fund, 40 Wall St., New York City.

National Assn. for Advancement of Colored People, 69 Fifth Ave., New York City.

National Committee on Maternal Health, 2 E. 103rd St., New York City.

National Council of Jewish Women, 1819 Broadway, New York City.

National Indian Institute, The, Dept. of Interior, Washington, D. C.

Netherland-America Foundation Inc., 10 Rockefeller Plaza, New York City.

Polish National Alliance, 142 Grand Ave., Brooklyn, New York City.

Population Assn. of America, U. S. Bureau of the Census, Washington, D. C.

Population Research, Office of, 20 Nassau St., Princeton, N. J.

Scripps Foundation for the Study of Population, Miami University, Oxford, O.

Young Judaea, Inc., 381 Fourth Ave., New York City.

Young Men's Hebrew Assn., Lexington Ave. and 92nd St., New York City.

Young Women's Hebrew Association, Lexington and 92nd St., New York City.

Zionist Organization of America, 41 E. 42nd St., New York City.

DIVISION XV

SOCIAL PROBLEMS AND CONDITIONS

PUBLIC SOCIAL WORK AND WELFARE

By Ralph E. Spear
American Public Welfare Association

DECLINE IN ASSISTANCE

In the public welfare field, the year 1943 brought a continuation of a trend which had been observed during the previous two years—the relative decline in the need for financial assistance, with an accompanying increase in the demand for services. Jobs were plentiful, so that most families had better than an assistance-level income either through industrial earnings or servicemen's dependents' allowances, but the increased strains on family life under wartime conditions highlighted new social needs.

Statistics will serve to illustrate the fact that people prefer work to assistance. In August, 1943, there were only about 312,000 general assistance cases receiving aid, representing a decline of 43.3 per cent in one year. (A further decline of about one-fifth, not shown in the case load statistics, is owing to the smaller number of persons in the average assistance case). In 1943 also the Works Projects Administration program was liquidated, so that the general assistance figure represents as accurate an index of the needy unemployed as is available. Scattered state and local analyses indicate that illness and handicaps of one sort or another have been the chief causes of dependency in this group.

The effects of the manpower shortage can be clearly seen in the decline in categorical assistance loads (old-age assistance, aid to the needy blind, and aid to dependent children). In August, 1943, the total number of individuals receiving old-age assistance had declined 3.9 per cent in a year to 2,163,954. This decline, despite an increasing population in the age group over 65 years of age, clearly reflects re-employment among the aged who are able to work. During the same period, the number of persons receiving aid to the needy blind dropped 2.5 per cent to 76,980, chiefly as a result of organized effort to employ handicapped persons in industry. Similarly, the total number of families receiving aid to dependent children declined 24.8 per cent to 290,822. It seems likely that this substantial decline is due to the employment of mothers in considerable numbers, a condition which has given rise to other social problems.

The decline in the total amount of assistance granted has not, however, kept pace with the case load decline. In August, 1943, the total public assistance of all types amounted to $77,230,906, as compared with $78,743,216 a year earlier. This fact is owing chiefly to the increased cost of living, accompanied in most places by increased assistance grants. Another factor was, however, the growing strength of the aged as a pressure group, with the result that, while the caseload declined 3.9 per cent in a year, the total amount of assistance to the aged increased 11.2 per cent during the same period. In the other categories of assistance, the difference is not nearly so marked.

FEDERAL ACTIVITIES CURTAILED

The year 1943 was significant in that it saw the practical withdrawal of the Federal Government from direct operation of public aid and work programs designed to alleviate unemployment and economic distress. While it continued to operate the old-age and survivors' insurance program on an expanding scale, the Federal Government's activities in assistance and public relief work were becoming clearly limited to financial aid to states for public assistance, with the supervisory responsibilities involved in such aid. During some part of 1942, the following agencies had been operating: Work Projects Administration (relief work), Civilian Conservation Corps (relief work), Farm Security Administration (subsistence payments), and Food Distribution Administration (food stamp plan). At the start of 1943, only the Work Projects Administration continued operations on any significant scale, and its liquidation had already been announced. By the end of 1943, all of these agencies had either been liquidated or had discontinued their assistance and relief work programs.

The only new programs of assistance financed wholly by the Federal Government were set up to operate through existing state and local public welfare agencies. Civilian war assistance, a program designed to meet needs of civilians directly affected by enemy action, and aid to aliens of enemy nationality were so established.

PSYCHIATRIC SERVICE

During the year a variety of new or expanded service programs were provided by public welfare agencies. Local staffs continued to conduct dependency investigations at the request of selective service boards. Toward the year's end the Selective Service System was asking public welfare workers for a service of considerable magnitude and importance. The discharge of men from the Army and Navy in substantial numbers for psychiatric reasons led to the inauguration of a screening program on a nationwide basis in an attempt to locate potential psychiatric breakdown cases before admission to the armed forces. Some public welfare agencies had already developed such programs, and welfare workers throughout the country were asked to volunteer their services so that the program might be made nationwide. At the end of the year, at least 15 states had completed plans for such programs, and most other states were working on them.

EMERGENCY SERVICES

Organization for emergency welfare services was spotty throughout the year. Usually mobilized by local civilian defense or war councils through the public and private welfare agencies, these services were to meet disaster conditions resulting from enemy action. On both coasts, detailed plans had been developed and offices manned by skeleton staffs on a 24-hour basis. In the Middle West, however, the threat of disaster was not so imminent, and plans were not so well developed. Interest in, and attention to emergency welfare services varied inversely with our military successes. Toward the end of the year, only a few localities on the coasts were observing full precautions against enemy attack.

SOCIAL REHABILITATION FOR GIRLS

Large concentrations of men in military establishments throughout the country occasioned the threat of increased incidence of venereal disease. Commendable vigilance on the part of Army, Navy, and public health officials minimized this threat, but the basic social problem remained. Young girls, caught up in the excitement of war, attracted by the glamour of uniforms, joined the inevitable army of "camp followers" and were picked up by police authorities as prostitutes. Where necessary, venereal disease was treated under health agency auspices. Public welfare agencies found themselves with the problem of social treatment of these girls—the problem of redirecting their interests toward wholesome pursuits before they became settled into a life of prostitution. Thanks to the efforts of the Division of Social Protection of the Office of Community War Services and the enlightened interest of many police officials, public welfare agencies in increasing numbers were asked to provide case work treatment aimed at social rehabilitation of the girls involved. Reports toward the end of the year indicated that such arrangements were being worked out in more and more communities, although it was too early to have significant information on the results of the program.

NEW CONCEPT OF WELFARE SERVICES

It became apparent during the year that a new concept of public welfare services was gaining ground. Charles P. Taft, Director of the Office of Community War Services, Federal Security Agency, highlighted this point in an address before a regional meeting of the American Public Welfare Association in Salt Lake City:

"As . . . risks are covered for more and more people through increased savings and participation in contributing insurance programs, welfare agencies can, increasingly, develop their capacities for service to working people in the whole community instead of only to that unfortunate group called in the last depression 'the unemployables'."

In this development, the public welfare field was following in the footsteps of other public services in recognizing prevention as an important part of the total program. The problem of providing day care for children of working mothers might be cited as an example of this type of service. With large numbers of mothers of young children employed in industry, potential problems of neglect and delinquency were recognized, and many communities mobilized their resources to provide a constructive service. The desirability of operating day-care centers through the schools was recognized, and in most communities sponsorship was provided by the local defense or war councils, facilities made available through the schools, and family counseling and relationships handled either by the local welfare department or by staff members loaned to the day-care organization.

Federal activities in this area were particularly confusing during the year. Representatives of at least four Federal agencies were concerned with the problem, and such divided responsibility meant delay in the approval of projects to be financed in part by Federal funds. Considerable interest was aroused by the introduction of a bill by Senator Thomas to fix full responsibility in the Federal Security Agency. While it passed the Senate, the bill seemed at the end of the year destined to die in the House, but it had at least served to point up the issues involved, and speedier administrative action in the future seemed assured.

CIVILIAN REHABILITATION

An existing Federal program was so revitalized during the year as to seem almost new. Public welfare agencies had demonstrated so dramatically the worth of rehabilitation programs in returning assistance recipients to employment that a 20-year old program of vocational rehabilitation was stimulated by the passage of the Barden-LaFollette Act of July 6, 1943. Under its provisions, an Office of Vocational Rehabilitation was set up in the Federal Security Agency, and the Division of Vocational Rehabilitation, formerly in the Office of Education, was incorporated into it. The program called for the operation of vocational rehabilitation plans by state boards of vocational education.

Public welfare agencies are directly concerned in the operation of the program in many states since rehabilitation activities for the blind are frequently administered by public welfare departments. The Barden-LaFollette Act specifically provides that they shall continue to operate under such auspices, and officials are now attempting to work out the administrative difficulties created by this dual pattern at the state level.

When the Act was passed, it was anticipated that a considerably expanded program would be put into effect. Public welfare workers and officials were in a position to recognize the tremendous benefits involved for the people whom their agencies served, and they hoped for a really important program. Toward the end of the year it appeared that economy forces in Congress were succeeding in dimming these hopes somewhat, as the House of Representatives, in passing upon the Divisionary Appropriation Bill, cut the request for administration by two-thirds and the request for program operations by one-half.

STANDARDS OF INDIVIDUAL CARE

As might be expected, the effects of the war were noticeable in many ways in the field of public welfare administration. Agencies faced at the same time immediate administrative difficulties and the problem of making certain important plans for the post-war period.

Perhaps the most immediate problem was one of standards of care of the individuals who still remain in need of public assistance. The increase in the cost of living felt by nearly everyone in the country presented a particularly difficult problem for public assistance clients. Few localities in the country had ever operated on a truly adequate standard of assistance and when prices rose many families found their situations really critical. Most agencies attempted in one way or another to increase the amount of assistance but in very few instances was it possible to keep pace with rising living costs during the early part of the year. Subsequently the price roll-back offered some relief, and toward the end of the year, thanks to the decline in assistance rolls, most agencies were able at least to approximate the standards previously in effect.

FOOD SHORTAGE PROBLEM

Food shortages confronted assistance clients with still another problem. The average family, when unable to obtain the choice cuts of meat to which it had been accustomed, was forced to accept substitutes usually at a lower price. With assistance families, however, the contrary was true, since assistance budgets had been geared to the lowest priced foods. Any substitutes had to be purchased at a higher price than the budget contemplated. The extension of rationing throughout the year alleviated this situation to some degree.

SHORTAGE OF WELFARE WORKERS

Another immediate administrative problem had to do with the shortage of trained personnel in the welfare field. While the decline in case loads resulted in a decreased need for workers in public welfare agencies, the attractions of war-connected welfare services and the higher salaries paid by industry resulted in a critical shortage of skilled workers in most agencies. This situation was further aggravated by the development of service programs as indicated above, calling for more skill and initiative on the part of the worker. To meet the need, at least partially, there was a general increase in attention devoted to training of welfare workers in the agencies themselves.

CARE OF THE AGED AND ILL

Another problem becoming more and more immediate for public welfare agencies concerned the care of the aged and chronically ill. Under the terms of the Social Security Act the Federal Government will not share the costs of any assistance given to an aged person who is a resident of a public institution. This qualification was, of course, intended to discourage almshouse care and to provide for something like a normal life for individuals in private homes. For the past several years, with the increase in our aged population, public agencies have become more and more concerned with the adequacy of care for needy aged persons who require some attendant care. A number of localities have developed hospitals for the care of the chronically ill while others deterred by the provision of the Social Security Act have adopted the policy of placing chronically ill individuals in private nursing homes. In those states where the statute prescribes maximum payment of $30 or $40 per month for old age assistance, the quality of care in such proprietary homes has frequently been sub-standard. Regulation of such homes has not been aggressively pursued since, in many instances, insistence on compliance would mean either the closing of the homes or the raising of rates beyond the point where public assistance recipients could be cared for.

At a meeting of the National Council of Local Public Welfare Administrators in December of 1943, there was a formal expression of opinion that the Social Security Act should be amended to remove the present restrictions on the payment of old-age assistance to residents of public institutions. It was hoped that such a change might be accompanied by a degree of supervision which would provide some insurance against the rebirth of the old almshouse.

DEMOBILIZATION PROBLEM

Beyond a doubt the problem of greatest interest to public welfare officials and workers through the year was the problem of the public welfare job during the period of demobilization. Concerned as they are with family life, public welfare officials were well aware of the fact that both military and industrial mobilizations have involved tremendous migration and disturbance of normal family relationships. Public welfare officials everywhere hoped that provision would be made for displaced workers and servicemen through other channels of government (unemployment compensation, public works, re-training programs, etc.) or through the maintenance of a high level of industrial employment. Estimates of the Conference on Postwar Readjustment of Civilian and Military Personnel of the National Resources Planning Board were, however, disturbing to public welfare officials. This group had carefully estimated that within six months following the cessation of hostilities, the number of unemployed would increase from 1,000,000 to slightly more than 8,000,000. In the absence of other provisions, public welfare agencies would again be called upon suddenly to meet the tremendous problem of economic need. While it seemed unlikely that either Government or industry would fail to recognize the preferability of employment to relief, public welfare officials needed to plan with the latter possibility in mind.

NATIONAL RESOURCES PLANNING BOARD REPORT

A monumental report in the public welfare field was released late in March, 1943, by the National Resources Planning Board. A committee of the Board put in two years' work on a report entitled "Security, Work, and Relief Policies." The recommendations of the report were many and detailed, but the specific objectives as set forth by the Board are relatively concise and worthy of quotation:

"1. Increasing emphasis upon policies aiming at the prevention of economic insecurity through a fuller utilization of our productive resources, including labor, and by more comprehensive measures to improve the health of our people. 2. Government provision of work for all adults who are willing and able to work, if private industry is unable to provide employment. 3. Appropriate measures to equip young persons beyond the compulsory school-attendance age for assuming the full responsibilities of citizenship. 4. Assurance of basic minimum security through social insurance, so far as possible. 5. Establishment of a comprehensive underpinning general public-assistance system providing aid on the basis of need, to complete the framework of protection against economic insecurity. 6. Expansion of social services which are essential for the health, welfare, and efficiency of the whole population; this expansion should be as wide and as rapid as possible."

SOCIAL SECURITY BOARD REPORT

The National Resources Planning Board's report was followed shortly by the seventh annual report of the Social Security Board. Its major recommendations were generally consistent with the recommendations of the N.R.P.B. report although they were, of course, more specifically related to the responsibilities of the Social Security Board:

"1. Federalization of unemployment compensation and the continued Federal operation of the Employment Service in the post-war period. 2. Extension of Old-Age and Survivors' Insurance to agricultural labor, domestic service, public employment, employment by nonprofit institutions, and the self-employed. 3. Provision of cash benefits for the chronically disabled. 4. Lowering of age of eligibility for Old-Age and Survivors' Insurance benefits of dependent wives to 60 years. 5. Provision to protect the benefit rights of persons in military service. 6. Temporary disability insurance. 7. Hospital benefits. 8. Public assistance grants to states to be made on a variable basis. 9. Removal of ceilings or raising of maximum on ADC grants. Extension of eligibility to include children "whose family resources are insufficient to insure healthful growth and development, whatever the reason." 10. Federal participation in general assistance. 11. Federal public assistance grants should include appropriate share of cost of medical care for recipients of assistance. 12. Maximum residence requirement of one year for old-age assistance and aid to the blind. 13. Availability of ADC to otherwise eligible 16 and 17 year olds regardless of school attendance. 14. Federal reimbursement of 50 per cent of administrative costs for old-age assistance."

LEGISLATION

Many of these recommendations were incorporated in a bill (S. 1161) introduced on June 3 by Senators Wagner and Murray in the Senate and Representative Dingell in the House. This bill proposed in the broadest terms a unified and extended public assistance program, a unified national social insurance system to include disability insurance, and medical and hospital insurance as well as the programs of unemployment compensation and old-age and survivors' insurance now in effect. The bill proposed furthermore that the coverage of the entire system be extended to nearly all workers in the country, and had a specific recommendation to protect the rights of servicemen in the insurance system.

The bill also proposed the continuation of a national system of public employment offices after the war, the nationalization of the unemployment insurance system, and an increased payroll tax (called a "social insurance contribution") to finance the entire insurance program.

BENEFITS FOR DISCHARGED SERVICEMEN

There was also a small avalanche of legislative bills in the 1943 session of Congress to provide many and varied benefits for servicemen upon discharge. The one which has attracted the greatest national attention was the proposal put forth by President Roosevelt in July 1943. His recommendations included the following: 1. Mustering-out pay to every honorably discharged member of the armed forces to ease the transition period between military and civilian life. 2. For those returning soldiers who are unable to find positions after a reasonable search, Federal unemployment compensation for a designated period. 3. Federally subsidized educational opportunities to fit the demobilized person for a specific job or profession. 4. Allowance of credit to all members of the armed forces toward Federal Old-Age and Survivors' Insurance for their period of military service. 5. Improved provisions for hospitalization and for medical care of disabled members in the armed forces. 6. In addition, sufficient disability pensions for the group included in point 5 of these suggestions.

INTERNATIONAL RELIEF AND REHABILITATION

Public welfare workers watched with the greatest of interest the development of the new international relief program during the year. The Office of Foreign Relief and Rehabilitation Operations established under Governor Herbert Lehman late in 1942 developed during the year and was able to function effectively as a relief organization in those areas of North Africa and Italy retaken from the Axis armies. Toward the end of the year, the United Nations Relief and Rehabilitation Administration was formally organized with former Governor Herbert H. Lehman at its head. The program had an auspicious start with fairly universal acceptance of its proposal to operate purely as a relief organization and count on the initiative of the people in the reconquered areas to carry out their own long-term plans for national rehabilitation. No public announcement had been made by the end of the year as to the exact role which the Office of Foreign Relief and Rehabilitation Operations will play in the new program, but the provision in the United Nations Relief and Rehabilitation agreement to the effect that the operating facilities of the member nations would be utilized supported the conjecture that OFRRO would continue to function as an agency of this country.

CONCLUSION

Probably the most significant trend in the year 1943 was the growth of the concept that public welfare should provide a positive, constructive, dynamic program of service that will offer a more promising future to people. The field has too long been regarded by too many people as a dreary business, dealing only in troubles and attempting only to meet them on a "first aid" basis. The quickening interest in programs of rehabilitation reveal clearly the conviction of public welfare officials and workers that the provision of relief should be regarded as a "last ditch" defense against problems of economic need. The late William Hodson, Commissioner of Welfare in New York City, said: "The answer to unemployment is employment." As more and more citizens come to realize that the goal of rehabilitation is before the nation's public welfare agencies, it is to be hoped that public support will be forthcoming to make that goal a reality.

PRIVATE SOCIAL WORK

By Russell H. Kurtz
Assistant General Director, Russell Sage Foundation

GENERAL

Private social work in the United States is carried on through a variety of agencies set up to render individualized, group, and community-wide services. For the purposes of this article the term "social work" is defined to exclude many closely related activities such as those conducted in the health field. Public welfare services are described in another article.

The following paragraphs, though descriptive of the scope of private social work, are not fully inclusive of the many specialized programs to be found in operation in our widely divergent American communities. For specific information as to local resources, the reader is advised to consult the social agencies of his own community.

FAMILY WELFARE SERVICES

Voluntary family welfare agencies provide a wide range of services to families and individuals in need of guidance or assistance. In 1943 there were nearly 500 such agencies in operation in the United States, including non-sectarian, Protestant, Catholic, and Jewish agencies. The oldest of these date from the 1870's when the "charity organization movement" reached America from England. Based on subsequent developments, the direct services of the modern family welfare agency include: Assistance in coping with difficult family relationships; tensions, separations, overcrowding, etc.; Services to offset disadvantages surrounding children in certain families—neglect, absence of working mother, behavior deviations, physical or mental handicap, etc.; Aid with family budget problems: nutritional standards, wasteful buying, inadequate income, etc.; Guidance to community resources: of employment, health, recreation, education, etc.; Financial assistance—complete, or supplemental to the public provision of social insurance and relief; Personal counseling to youth and adults—on individual problems of vocation, social adjustment, etc.

In addition to rendering direct services of these types, many family agencies are actively engaged in programs of community betterment such as housing reform, enforcement of child labor legislation, prevention of youth delinquency, and so forth.

The typical family welfare agency is an incorporated body, with a membership of interested citizens, a governing board elected from the membership, and a professional staff. It is financed by voluntarily contributed funds received from the local community chest (or other central fund-raising organization) or raised by direct solicitation. Some of the larger and older family societies have endowments of considerable size from which a part of their operating income is secured.

Services are rendered to individuals and families by the "social case work" method, that is, on an individualized, case-by-case basis, with social objectives held constantly in mind. Thus, aid is directed to releasing the full potentialities of the persons assisted, in contrast with the inadequate ameliorative activities of an earlier generation.

Most family welfare agencies are non-sectarian in character, although the "Catholic Charities" of some 80 dioceses and the Jewish welfare agencies of an approximately equal number of communities render equivalent services. Some of the better-staffed departments of public welfare also provide case work services to families in addition to administering public aid programs, which is their chief function. The Family Welfare Association of America, a voluntary federation of 230 local family societies, —mostly private and non-sectarian—serves as standard-setting body for the field.

During 1943 a number of new emphases were apparent in family social work. Agencies were active in providing counseling services to war workers and their families; investigatory services to local Selective Service boards, through loans of staff; generalized service to the families of men and women in the armed forces; and cooperation with other community agencies in meeting the problem of increased juvenile delinquency. The services which they will be called upon to render during the demobilization and post-war periods were already being foreshadowed in activities directed to the adjustment of discharged service men and dismissed war workers who, in the latter part of the year, were returning to their home communities in substantial numbers.

CHILD WELFARE SERVICES

In addition to the child welfare services rendered by family agencies, as discussed above, a group of specialized activities are carried on in behalf of dependent, neglected, or otherwise disadvantaged children by independent agencies organized for that purpose. These activities include provision of foster care in private homes or institutions; work with unmarried mothers and their children; protective services directed to the prevention of delinquency and exploitation; provision of day nursery and visiting-housekeeper services to children of working mothers; and cooperation with agencies of health, recreation, education, and child development in efforts directed toward building a better environment for all children as well as for the special children under care.

Foster care in family homes is considered by most children's agencies to be one of the best methods of meeting the needs of dependent or neglected children during a period of disorganization in the child's own home. Care in institutions, formerly given to large numbers of children deprived of parental care, is now being increasingly provided as a temporary service to help prepare the child for more normal living in his own or a foster family home. Foster family care is given in four types of homes: free homes, boarding homes, wage homes, and adoptive homes. When boarding homes are used, the placing agency may meet part or all of the cost of the care, depending upon the parent's circumstances in each case. Good foster homes have recently become difficult to find in many communities as a result of the heavy drafts made by war industry on the womanpower of the nation.

Work with unmarried mothers and their children has increased during the war period, and has been complicated by the severe dislocations which the war situation has brought to personal and community life. Frequently needs for service arise in crowded communities where the resources for rehabilitative care prove most inadequate to the complex demands made by this type of problem.

Protective services include vigilance with respect to the standards of commercial recreation in the community; use of child labor at prohibited occupations; unsocial detention of children charged with delinquency; neglect or abuse of children by parents or guardians; and similar problems. Children's agencies have become increasingly alert during 1943 to the hazards surrounding children in the sub-standard housing developments and trailer camps found on the fringe of crowded war-industry centers.

Various special forms of "day care" are provided for children deprived of normal parental supervision though not of economic support and shelter. These problems arise in homes where the mother is ill, absent day after day on war employment, or otherwise unable to meet her full obligations to her children. They are dealt with by the use of mother substitutes or "visiting housekeepers," by foster day care, or by care of the children in day nurseries or nursery schools operating under public or private auspices. The 600 or more day nurseries in existence before the war have been called upon to adjust their limited facilities to the new wartime demands for this type of service.

Voluntary child welfare agencies have continued to promote the programs of child health, recreation, parent education, prevention of delinquency, and child development conducted by other public and private agencies devoted to the enrichment of life for all children. They have been particularly concerned with the children of parents in minority groups, migrant families, and men in the armed forces, many of whom are handicapped because of environmental circumstances.

As in the case of family welfare agencies, children's agencies draw their chief support from community funds or other voluntary sources, and render their services by the case work method.

The Child Welfare League of America is a leading national voluntary agency in this field. A total of 438 local organizations, including child-placing agencies, protective societies, and children's institutions, both governmental and voluntary, are accredited members or affiliates of the League.

TRAVELERS AID

This is a form of service designed to assist "moving people"—travelers, transients, migrants—in meeting the peculiar problems that arise from their absence from home, their mobility, or their lack of legal settlement. Travelers aid workers are stationed at transportation terminals, where they give what is known as a short-contract type of case work service to the persons who apply for help. Problems presented include requests for information concerning local housing accommodations; aid in locating friends or relatives who have failed to appear as expected; temporary financial assistance; planning to have services rendered at some point farther along the route of travel; aid in apprehending runaway children; and similar difficulties.

Organized Travelers Aid Societies exist in more than 100 of the larger cities. Cooperating agencies of other types—family welfare societies, YWCA's, etc.—greatly extend this service besides rendering similar aid themselves on occasion. The National Travelers Aid Association is the coordinating and central service body in this field.

An important wartime service has been rendered by Travelers Aid Societies within the framework of the United Service Organizations, described later. USO-Travelers Aid units have been located near military and naval posts, in crowded war-industry communities, and at vital transportation centers, to assist service men and women and their families and migrant workers with their war-induced problems.

IMMIGRANT AID

In the period of heavy immigration that preceded the First World War, immigrant aid societies were established in the larger cities to deal with the exploitation of this unassimilated group. Following the curb placed upon immigration in the 1920's, the work of these societies became more directly focused upon inter-cultural relations. During the late 1930's and the ensuing war period, the emphasis again shifted, this time to making provision for the refugees from oppression in Europe, and a number of new organizations were formed to render service to these people. The National Refugee Service was organized in 1939, originally as a national coordinating committee in this field but later functioning as a group giving leadership to local committees providing direct services to these "new immigrants."

The National Institute of Immigrant Welfare, formed in 1935, has in its membership a group of affiliated member agencies, a majority of which are known as "International Institutes," in a number of the larger cities; and in addition has the support of other cooperating local agencies. Its chief objective is the development of more adequate local services in behalf of the foreign born.

The international service aspects of immigrant welfare work include clearance of information across national boundaries with respect to families broken by immigration, the provision of case work services at either or both ends of the migration, and similar services. The International Migration Service has long been active in this field.

SALVATION ARMY

The Salvation Army operates as a religious and charitable organization in all the states and territories of the United States with a program which includes social service to families and unattached persons, certain forms of institutional care, and employment in the reconditioning of salvaged materials. It reported 1,479 local societies and 342 centers for institutional care in operation during 1943. It serves men in the armed forces through 201 USO units as well as 210 Salvation Army centers. The organization is international, meeting human needs in 97 other countries and territories.

AMERICAN RED CROSS

The program of the American Red Cross extends into fields beyond the boundaries of social work as usually conceived, embracing such major activities as production of surgical dressings, collection of blood plasma, training in first-aid and home nursing, etc. At its core, however, is a large social work effort keyed to the needs of service men and operating within both the armed forces and the "home communities" of the nation. To implement this work, field directors are located with the troops in military camps, both in this country and overseas, in combat zones, at naval stations and Army and Navy hospitals, and "home service" units are maintained in the thousands of local chapters of the organization. Through this network are cleared many problems which the service man presents because of his civilian connections—worry over the well-being of dependents, for example, or need for assistance in resolving some personal difficulty. Field directors in hospitals have been largely recruited from the ranks of medical and psychiatric social work. A large proportion of the home service workers are volunteers.

The Red Cross conceives of its home service responsibility as including the provision of some financial assistance to the families of service men, especially to those awaiting receipt of family allowances. It also has accepted a major responsibility for service to veterans and helps in the interpretation and application of the governmental benefits provided for this group. Financial assistance is included for veterans when pension applications are pending.

Overseas, the Red Cross conducts recreational and leisure-time enterprises in many leave areas. (The USO performs a similar function in this country, as described later.)

Other social work activities of the Red Cross include disaster preparedness, and relief to victims of flood, fire, and other domestic calamities; foreign relief to victims of war, pestilence, famine, etc.; war-prisoners' aid; and health, nursing, and nutrition work.

The Red Cross operates on voluntary funds secured in nation-wide appeals made independently of the joint campaigns conducted by local community chests and war chests. Its budget totaled approximately $153,000,000 for the fiscal year 1943-44, and $200,000,000 will be sought in a campaign to be conducted in March, 1944.

UNITED SERVICE ORGANIZATIONS (USO)

The USO is a wartime agency in which six national voluntary organizations in the welfare and recreational fields have joined to meet needs of service men and, to some extent, of war workers. The cooperating agencies are the National Council of the Young Men's Christian Associations, National Board of the Young Women's Christian Associations, Salvation Army, National Catholic Community Service, National Jewish Welfare Board, and National Travelers Aid Association.

Except for its overseas USO-Camp Shows activity, the USO's operations are confined to the Western Hemisphere. The chief volume of service is rendered at "clubs," most of which are located near Army camps and Navy posts for the off-duty recreation of military men and women. Reading, writing, game and lounging rooms are provided, as well as snack bars, auditoriums, dormitories, and other needed facilities. A wide variety of informal group activities and personal services, including counseling and case work services, are provided. In addition to nearly 2,500 clubs and smaller centers, including those conducted by member agencies and local communities in affiliation with USO, the organization early in 1944 maintained 126 lounges in rail and bus terminals for troops in transit; 152 Travelers Aid desks in stations and USO clubs; 157 mobile units for men on outpost duty and troops on maneuvers; and 101 USO-Camp Show units in this country and 55 overseas.

Professional staffs at USO units are recruited largely from the member agencies. A corps of more than 1,000,000 volunteer men and women assist staffs and take part in recreational, social, and other programs. The organization is financed by voluntary contributions. In 1941 and 1942 it raised $14,000,000 and $34,000,000, respectively, through its own campaigns. In 1943, as a member of the National War Fund, its share in the total goal of the Fund was $65,000,000.

OTHER MILITARY SERVICES

The Army Emergency Relief, a quasi-private agency formed in 1942 and affiliated with the 44-year-old Army Relief Society, collects and disburses funds to relieve immediate distress among dependents of the military forces. It works in close cooperation with the American Red Cross, on the one hand, and the Army, on the other. Funds have been raised chiefly through benefits conducted in the civilian community.

The Navy Relief Society, established in 1904, provides welfare services and relief to dependents of naval personnel. The work of the Society is carried out through auxiliaries located at the large naval stations.

The United Seamen's Service, formed in 1942, operates clubs, hotels, and rest centers for men and officers of the American Merchant Marine in all ports at which these men gather. Sixty such centers were maintained in 1943. The Service is financed through the National War Fund.

In some cities, notably New York City, recreation committees established before the creation of USO have continued to provide leisure-time services to service men on leave.

SOCIAL SETTLEMENTS

The first American social settlement was founded in New York City in 1886. Today there are 158 such neighborhood houses represented in the agency membership of the National Federation of Settlements, the national clearing-house body in this field; and, in addition, about 70 others.

Settlements are generally located in the poorer sections of the large cities. They identify themselves closely with the lives and interests of the "neighbors" in the area served. Their programs include group recreational and educational activities for old and young, social action on such issues as housing reform and consumer protection, and aid to individuals in achieving a richer life experience.

The war has brought to the settlements an opportunity to serve their neighborhoods as centers for civilian defense activities, day-care centers for children of working mothers, and in some areas as recreation spots for service men and war workers. Their programs for young people have been considerably modified to cope with the wartime forces of disorganization at work in these crowded areas.

YOUTH-SERVING AGENCIES

The American genius for organization has produced a number of voluntary youth-serving organizations of importance in community and national life. Outstanding among these are the Young Men's Christian Associations, Young Women's Christian Associations, and Jewish Community Centers; various Catholic youth organizations; the Boy Scouts of America, Girl Scouts, and the Boys' Clubs of America.

There were 1,300 Young Men's Christian Associations in operation in the United States during 1942. Members in all classes totaled 1,200,000 and members and other participants in organized group activity totaled 2,295,000. The war has brought a sharp reduction in the number of members of military age but a marked increase in participation in the activities of the Associations by the remaining members, men in the armed forces, and workers in war industry. Work with younger boys also occupies a place of increased importance. YMCA's on college campuses have been turned wholly toward the needs of students in uniform. Other extensive services to the armed forces are rendered as a member agency of the USO. Looking toward the needs of the post-war period, the Associations are strengthening their service of counseling to young men returning to their home communities from military life and war-industry centers and, in the larger cities, their service in vocational education. Citizenship education is also being stressed in all plans for the immediate and longer future.

Young Women's Christian Associations were to be found in 417 urban communities and on 586 college campuses in 1942. Their enrolled membership totaled 622,000, and over 3,000,000 women and girls took part in their civilian activities during that year. Because of the YWCA's affiliation with the USO, it participated in serving the millions of persons aided by that organization in addition to carrying on normal community activities.

Jewish Community Centers, including the Young Men's and Young Women's Hebrew Associations, operated in over 300 localities during 1943. These organizations had a membership of 400,000 men and women, boys and girls, in 1943. Through their national organization —the Jewish Welfare Board—they also participated in the USO program, and their personnel operated a number of the units of that agency.

Catholic youth organizations of several types, most of them affiliated with the National Catholic Youth Council, are located in many community parishes and on college campuses. A new agency, the National Catholic Community Service, was formed in 1940 to mobilize Catholic resources for serving the armed forces through the instrumentality of the USO.

In 1943 the Boy Scouts of America reported a total membership of approximately 1,269,000, organized in 43,000 Scout troops and 8,200 Cub packs. Its program, as is well known, emphasizes character building and training for citizenship and contains a large element of outdoor activity of interest to boys. During the war years the Boy Scout organization has participated widely in home-front and civilian defense services of value in the war effort.

More than 7,000 communities in 1943 supported Girl Scout troops having a total active membership of nearly 840,000, of which 675,000 were girls and 165,000 adults. The program aims to provide a group experience for three age levels, through which self-reliance and a sense of social responsibility may be developed. War services have included the organized sale of War Stamps, "victory gardening," hospital aides, child care, and other community activities that may lead directly into post-war programs.

Boys' Clubs throughout the United States, with a total membership of 250,000 boys, carry on programs for the social, physical, vocational, and character development of boys in low-income areas. These Clubs are affiliated with Boys' Clubs of America, the national organization. Under the Victory Program of the organization, the members of Boys' Clubs have been organized for wartime services to the nation.

Other youth-serving agencies operate under the auspices of fraternal, labor, religious, and patriotic bodies but lack of space prevents discussing them here. The settlements, as was indicated earlier, also conduct a wide variety of group activities for youth.

INSTITUTIONAL CARE

In addition to the social services rendered within the normal civilian community, institutional care is provided under voluntary auspices for certain handicapped persons such as dependent and neglected children and the dependent aged. Many of the oldest and largest private institutions are supported by churches and fraternal orders.

There has been a noteworthy trend in recent years away from institutional care to the provision of individualized service in boarding homes. Institutions are still regarded as important resources, however, in the care of persons whose health or behavior does not permit adequate service being rendered within small family units.

COMMUNITY AND WAR CHESTS

A large proportion of the funds for voluntary social work are raised in annual community-wide campaigns conducted by joint-financing agencies known as "chests." The amount of money secured in these drives approached $100,000,000 per year in recent pre-war times. It has been estimated that in 1941 more than 500,000 volunteers took part in local community chest campaigns and that 11,000,000 citizens contributed to them.

Since 1941 the community chests of the nation have undertaken to raise funds not only for the established social services of the locality but also, increasingly, for special wartime services at home and abroad. In the early war years a large number of organizations had sprung up to solicit money for foreign relief—more than 500 such groups were registered with the State Department in 1941—and for new wartime domestic services such as the USO. It became necessary for many reasons to clarify this situation and to coordinate these new appeals in one enterprise which would eliminate duplication and allow a sound relationship to be developed with the local chests. The National War Fund was established in 1943 to achieve this result. In localities where community chests existed, the War Fund arranged to work through chest channels, but in thousands of hitherto unorganized areas, special units of the War Fund were set up.

In the closing months of 1943 the National War Fund and the community chests (or "war chests," as many of them are now called) jointly campaigned for roughly $250,000,000 to finance approved foreign relief agencies, special home-front war-time services such as the USO, and the established social services of the local communities. The American Red Cross was the only large unit not included in this appeal; it elected to make its own campaign at another time. The goal was reached with a comfortable margin and the proceeds allocated approximately as follows: to United Nations relief agencies, $65,000,000; to the USO, $65,000,000; to established local services, $125,000,000; and to miscellaneous related programs, $5,000,000.

Community and war chests are concerned not only with fund raising but also with the planning of social services in relation to local need. This latter function, however, is the primary obligation of councils of social agencies which, in most localities, exist alongside the chest or as a part of it. While the chests raise funds for private social work only, the councils include public agencies in their membership and endeavor to bring about closer coordination among all the social services of the community. A wartime development has been the establishment of defense or war councils in most communities, with responsibility for the coordination of community services on a broad front.

Confidential central indexes to the case records of social agencies are maintained in most areas, these usually being operated under the auspices of either the chest or council. Upon receiving an application for assistance a member agency may determine, by consulting the index before entering upon the case, whether the applicant has been receiving service elsewhere, thus allowing it to make cooperative plans or otherwise to avoid duplication of activity.

NATIONAL AGENCIES

Some mention has been made in the foregoing paragraphs of the existence of national associations in the various fields of private social work. There are 30 such agencies represented in the membership of the National Social Work Council (including five whose major emphasis is on health). The *Social Work Year Book* 1943 (published by the Russell Sage Foundation) lists 412 national voluntary agencies in the fields of health, welfare, and related activities. Many of these, of course, are devoted to enterprises considered related to but not a part of social work practice. National associations of local service agencies are supported in part by contributions from the local units and in part by foundation grants, individual gifts and membership dues, and other means.

HOUSING

By Helen C. Monchow

Editor of Publications, National Housing Agency

GENERAL

The American housing scene in 1943 continued to be dominated, as it had been in 1942, by war housing, providing housing accommodations for the workers who flocked to war industry centers to man the plants that produce the machines and weapons to feed the nation's war effort. Of necessity, this war housing job had to take precedence over all other housing activities, and responsibility for its planning and execution was concentrated in the National Housing Agency.

VOLUME AND RATE OF PRODUCTION

The results of that concentration were reflected in substantial gains during 1943 in the volume and rate of war housing production. During the first nine months of the year a total of 423,317 units of war housing was completed—more than twice as many as were completed during the corresponding period of 1942—and during September alone a total of 31,795 additional units was placed under construction, thus bringing the nine months' total of units started in 1943 to 349,033.

This sharp increase in the volume of war housing production and in the rate of completion, plus the greater use that has been made of existing structures for war housing purposes, makes it possible now to say that the war housing program has reached an advanced stage. Since the start of the emergency in mid-1940, some 1,250,000 units of war housing have been completed, some 250,000 more are in various stages of construction, and over 1,500,000 in-migrant war workers have been housed in existing private structures. In many localities it is possible also to say that war housing has caught up with the immediate demand.

These accomplishments were possible because during 1943 housing was integrated ever more closely with the total war program and the housing industry was converted more nearly to a complete war basis.

INTERNATIONAL RELATIONS OF THE NATIONAL HOUSING AGENCY

Integration of housing with the total war program has taken two forms. A first step in this direction has been the development of closer interrelationships among the various units and functions of the National Housing Agency. The year 1943 was the first full year of operation under the consolidated National Housing Agency which had been formed early in 1942 to focus and direct the urban housing activities of the Federal Government. Into the Agency had been consolidated the housing activities formerly carried on by some 16 agencies and administrative units. The new set-up has represented a streamlining of the organization on a functional basis. The Office of the Administrator performs the over-all fact-finding and planning functions which currently consist primarily of formulating war housing policy and programming war housing, including its post-war disposition. The three major constituents of the Agency perform their traditional functions, with special attention now to their relation to war housing. They are the operating arms of the Agency through which the war housing program is executed.

Thus the Federal Home Loan Bank Administration continues to provide a mortgage credit reserve for thrift and home financing institutions through the Federal Home Loan Bank System; to protect the savings of investors in such institutions through the Federal Savings and Loan Insurance Corporation; and to collect the loans and dispose of the properties acquired by the Home Owners' Loan Corporation as a result of its distress financing operations during the depression.

The Federal Housing Administration continues to insure mortgages on properties which meet its standards, and further legislative enactments have adapted its mortgage insurance plan to the risks of wartime housing construction. FHA field offices handle applications for priority ratings or allocation of critical materials for privately financed wartime construction and conversion, process these applications, and transmit them to the War Production Board for approval or rejection.

The Federal Public Housing Authority is the unit which is responsible for constructing and managing all war housing built with public funds, other than housing located on Army or Navy reservations, posts, or bases.

Substantial advantages have accrued to the war housing program from consolidation of all these functions under the direction and supervision of a single head. Through this centralization of authority in the National Housing Administrator it has been possible to adjust the over-all program more readily to changes in production schedules, to utilize more fully and economically the personnel, the experience, and the facilities of the various housing units in the Agency, to coordinate more effectively the total housing resources in a given war industry center, and thus to strengthen generally the broad attack on the over-all war housing program.

RELATIONS WITH OTHER FEDERAL AGENCIES

The second form of integration with the total war program has been the development of better working relations with other agencies of the Federal Government having direct concern with the total war effort. Only the two most important of these inter-agency relations can be mentioned here. One has been the necessity for complete integration of the war housing program with the basic programs of war production and war manpower. As an instrument of the manpower program, war housing is entirely correlated with the policies and findings of the War Manpower Commission. If the Commission certifies that in-migration of war labor is essential in any given community, it is the responsibility of the National Housing Agency to provide housing for those in-migrant workers. The same applies to the Commission's findings as to the family and financial status of those in-migrants. Finally, where the Commission determines that the local labor supply is sufficient for the war manpower needs of any community, the NHA does not schedule any new housing and the War Production Board does not permit use of critical materials for housing.

Similarly on the materials front, the war housing program has been integrated with the materials allocation system of the War Production Board to assure that the critical materials made available to housing will be used only for the most essential war purposes. The National Housing Agency can not schedule new construction in any locality except to the extent that its housing needs can not be met through use of existing structures.

Where new construction is unavoidable, the NHA is the spokesman for the industry in obtaining the necessary materials for the total program. Under WPB's Controlled Materials Plan, the NHA is now a claimant agency, which puts housing on a par with other war production industries in seeking and obtaining materials. This status for war housing is contingent upon the NHA's effort to make maximum use for housing purposes of existing structures of various types, and to that end the NHA has intensified its efforts through its Homes Use Service, described below.

CONSERVATION OF CRITICAL MATERIALS

Conversion of the house building industry to a complete war basis has taken several forms and is evidenced in a variety of developments that occurred during 1943. Because housing competes with direct war industries for many of the materials used in its construction, the war effort has dictated that even the most essential war housing use only the absolutely minimum quantities of the materials needed for ships, planes, guns, and tanks. The NHA, therefore, has worked closely with industry and with other governmental agencies to eliminate every unessential use of metal, particularly, in housing construction and wherever possible to develop substitutes for the most critical items.

The record speaks for itself. Savings ranging up to 80 per cent in use of critical metals as compared with pre-war levels have been accomplished in the war housing construction program. The average privately financed family dwelling unit now being built under the war housing program consumes only 2,749 pounds of critical metals as compared with 8,930 pounds of such materials used in the average pre-war dwelling unit.

Publicly financed war housing family dwelling units of permanent type built during the fiscal year ended June 30, 1943 consumed an average of 2,717 pounds of critical metals, in contrast to 9,712 pounds used in the average pre-war publicly financed dwelling and 5,370 pounds consumed in the average family dwelling built with public funds in the preceding fiscal year.

Still greater savings have been accomplished in family units of temporary construction which now is used for substantially all war housing being built with government funds. The average temporary family unit uses only 1,989 pounds of critical metals, a saving of 80 per cent as compared with pre-war public housing of the permanent type. Temporary dwellings are built only as duration housing and are scheduled for dismantling after the end of the war emergency.

USE OF EXISTING STRUCTURES

A corollary of the conservation program of the NHA has been the redoubling of its efforts to obtain the greatest possible supply of housing accommodations out of structures already in existence. Thus, of the total war housing program which probably will reach more than 4,000,000 accommodations by the summer of 1944, it is estimated that over 2,000,000 probably will have been provided in existing private housing, as against something like 1,945,000 accommodations representing new construction or conversion.

The program of Homes Use Service, a unit in the National Housing Agency organized for this special purpose, has three major facets. The first has been the organization of an intensive promotional campaign to get people to "share their homes" with in-migrant war workers. Obviously this is the most economical method of meeting the war housing need as it involves the use neither of money nor scarce critical materials.

The two other methods employed by the Homes Use Service are also economical relative to new construction. For those persons willing to convert their properties to yield additional accommodations, two methods are open. Property owners can utilize their own funds or borrow from private lending institutions, with or without mortgage insurance, or they can lease their properties to the Government and let it do the conversion job.

During 1943 the Homes Use Service perfected the lease arrangements for publicly financed conversions; improved the techniques for cooperation with private real estate brokers as a result of which more properties are being offered for conversion; developed closer working arrangements with local war communities which have resulted in increased sharing of homes and more conversions of private properties; established some 170 War Housing Centers which are clearing houses of information about local housing accommodations and are the places where vacancies may be registered and applications for accommodations filed, thus facilitating the meeting of demand and supply in a given area.

In October, 1943 the Homes Use Service reported that a total of 30,000 units had been placed under lease for conversion and that additional dwelling units were being brought under lease at the rate of from 4,000 to 5,000 per month. The publicly financed conversion program, it is estimated, will save the Government about $36,000,000 in original costs, as compared with expenditures necessary in new construction even of the temporary type. The average cost per unit is $1,550 which is slightly more than half the construction cost of a new temporary unit and the saving in critical materials is more than half.

THE SHARE OF PRIVATE ENTERPRISE

From the outset an important plank in NHA's war housing policy has been to encourage private building enterprise to do as much of the war housing job as it could and was willing to do under the limitations as to materials, prices, and rents dictated by the war economy. To this end NHA has cooperated closely with private industry and private finance, to encourage their maximum participation in the war housing program. This has included joint efforts to save critical material by revised construction practices and the development of substitutes; constant consultation on mutual problems and the development of as great a degree of certainty in operating conditions as can be attained in wartime. The NHA has secured equal access to critical materials for qualified private projects through the AA-3 preference ratings now assigned by the WPB to all war housing. It has cooperated also in the revision of war housing construction standards which will simplify the alignment of private activity with war housing requirements. By thus clarifying the role of private enterprise and the conditions controlling its participation in the war housing program, the resources and cooperation of the private building industry have been mobilized to supply almost all of the war housing for which a continuing postwar need is indicated.

Since the beginning of the housing emergency in mid-1940 private builders had completed, up to Nov. 1, 1943, approximately 600,000 new family dwelling units under the war housing program and had more than 80,000 additional units under construction, including close to 300,000 units built without priorities in the earlier period of the emergency but serving war housing needs. More than 380,000 units started with priorities assistance under local war housing quotas.

Wherever a program of new construction has been approved, the NHA calls for private financing wherever there is reasonable expectation of continuing economic need for the housing after the war and wherever private builders can meet the necessary wartime restrictions on size, location, and occupancy. To the extent that private financing can not meet the need because of occupancy conditions or temporary construction, the NHA specifies government financing, and the projects are built by private builders under government contract. Clearly no sound means exist for private financing of temporary projects scheduled for dismantling within a few years.

TEMPORARY CONSTRUCTION

The final major move toward a complete war basis for housing has been the progressive shift of publicly financed housing away from permanent and toward temporary construction. This policy has been dictated by the necessity for maximum conservation of critical materials; it is also more economical, permitting more units out of given funds. Another important consideration has been time. Reference already has been made to the sharp reductions achieved in the use of critical materials. With respect to cost, the shift to temporary construction for publicly financed war housing has resulted in savings approaching $400,000,000 in the cost of family dwelling units alone. The working out of a conversion technique whereby family dwelling units can be produced at half the cost of even a temporary new dwelling, will result in the saving of $75,000,000 additional. As for the time factor, resort to temporary construction has been a major factor contributing to the record of more than 1,000 new units of daily production for the publicly financed program.

Of the total publicly financed war housing program to date, almost precisely two-thirds of the units provided as of July 31, 1943 were of nonpermanent construction. These units included both temporary and demountable types as well as stop-gap or trailer accommodations. The actual percentages are as follows: 33.3 per cent permanent; 61.5 per cent temporary, including demountable; and 5.2 per cent trailer units.

FINANCE LEGISLATION

In order to meet the demands for war housing arising from the continued in-migration of war workers into production centers, it was necessary for the National Housing Agency to request additional legislative tools and funds.

The first legislation in aid of privately financed war housing in 1943 was an increased authorization of $400,000,000 under Title VI of the National Housing Act which brought the total authorization for insurance of private war housing to $1,200,000,000. The second piece of legislation again increased the authorization under this Title by $400,000,000 to a total of $1,600,000,000, and extended it for one more year to July 1, 1945. Also included were two other amendments to the National Housing Act, one which extended for two years (to July 1, 1946) the authorization to insure mortgages on existing structures under Title II, and the other which extended for three more years (to July 1, 1947) the authorization to insure under Title I and also raised the upper limit of the insurance premium for Title I loans to 1 per cent (in contrast to the former rate of three-fourths of 1 per cent). The extension of the Title II authorization is important for the normal operations of the Federal Housing Administration, and the extension of Title I is important for the same reason as well as for its additional contribution to the war effort by encouraging further activity in repairing and remodeling, which are necessary not only to promote increased use of existing structures to house war workers, but also to facilitate the maintenance of existing properties.

In order to supply the additional public housing necessary to meet the demands arising from continued in-migration, additional funds were sought under the Lanham Act which is the basic instrument for financing publicly built war housing. In respect to this request the Congress authorized an increase of $300,000,000 in Lanham Act funds. To date $100,000,000 has been appropriated under this authorization.

PROBLEMS AHEAD

The year 1943 did not mark the completion of the war housing program although substantial progress was made toward that end. As of November, 1943, it was estimated that approximately 1,000,000 additional war housing accommodations would be required for the additional in-migrants needed to meet production goals. Of these it was expected that 560,000 could be provided through intensified use of existing dwellings, leaving the balance of 440,000 to be provided by new construction and conversion. Even provision of this housing will not assure completion of the war housing program.

In many essential lines of war supply and equipment, production is still some distance from the peak. This means that in many localities thousands of additional workers must be recruited. Only part of this additional manpower can possibly be secured from resident workers. Many thousands must be recruited elsewhere and these thousands will need housing.

The problem of programming war housing becomes increasingly complex as the war effort attains the vast production scale which has been the goal since Pearl Harbor. War production, although steadily expanding in over-all proportions, must be adjusted constantly to meet changes in war strategy or to capitalize on experience gained in actual combat on the fighting fronts. War housing is subject to these changing requirements since it is built exclusively as a war facility, geared to the needs of specific war plants.

Once war housing has been completed, it is fixed, for the most part, in the locality and any downward revision in production schedules thereafter may leave both plant and housing capacities partially unused, at least for a time. In a few scattered communities, manpower needs already have been radically reduced because of sharp changes in war production schedules and some of the housing built to meet the original need now is idle. In some other localities, where the tightening manpower situation has delayed recruitment of additional workers, housing is temporarily vacant, awaiting arrival of the workers for whom it was built. In such instances, the availability of housing is a positive aid to manpower recruitment since new workers can be guaranteed immediate living accommodations.

Where production adjustments result in substantial vacancies, the NHA will make every effort to obtain maximum utilization of the housing. In some cases, modifications of occupancy requirements may be desirable in order to permit the housing to be used by workers not now eligible. In other instances, it may be in the best interests of the war effort to reserve the housing as a stand-by facility in the event that employment needs in the war plants served should expand again.

POST-WAR TRANSITION

In addition to planning for completion of the war housing job another current responsibility is planning for the transition from a wartime to a peacetime economy. One aspect of this problem is the disposition of the war housing that has been built in the last two years—the dismantling of the temporary structures, disposal of the salvaged materials, and orderly disposition of the permanent structures built with public funds.

Another phase of the problem is planning for the interval that may occur between completion of the war housing job and the time when wartime restrictions are removed from the building industry. In this interval, when the construction industry can not resume its normal operations, plans must be laid to keep the industry in a state of health such that it will be ready to carry its share in the real post-war period.

Finally, for this post-victory period there is need to plan for an orderly resumption of operations, especially during the immediate demobilization period. At that time the construction industry will be called upon to make a substantial contribution. The care and thought which go into these plans will pay large dividends in the form of a sound basis for a sustained program for better homes for the American people.

PRISONS AND CRIME CONTROL

By James V. Bennett
Director, Bureau of Prisons, Department of Justice

PRISON POPULATION

The populations in state and Federal prisons and reformatories have continued the steady decline which started about three years ago. The Federal Bureau of Prisons has shown a sharp decrease in commitments for offenses not connected with the war from 21,223 in 1941 to 17,966 in 1942 and 11,853 in 1943. It is estimated that, toward the close of the year 1943, there were less than 120,000 prisoners in the various state penal institutions.

A survey completed by the Prison Industries Branch of the War Production Board revealed that as of October, 1943, there were six states with a prison population of over 5,000. New York State was highest with a population of 11,300 and Illinois next highest with a population of 10,223. California had the lowest population of this group with a population of 5,766. The state reporting the fewest number of prisoners was Idaho with a prison population of 146.

In both state and Federal prisons, it is evident that the decline in prison populations has also been accompanied by a change in the character of the population. The reformable, short-term type of offender, as he is released, is being absorbed in the war effort through industry or the armed services. With the decreasing number of commitments, the tendency is for the less reformable, longer-term offender to characterize the prison population. In the Federal prisons, also, there is a new type of offender—the saboteur, the traitor, the Selective Service violator, the conscientious objector, and the service man convicted under military court-martial. These conditions offer new problems to the prison official which must be met with new methods.

GEARING PRISONS TO THE WAR EFFORT

A report issued in November, 1943 by the Prison Industries Branch of the War Production Board estimated that state prisons were annually producing approximately $10,000,000 in war materials including assault boats, shell cases, blankets, bomb crates, tent pins, submarine and cargo nets, stretchers, salvage work, and a variety of other types of goods. Federal Prison Industries reported an annual output of $18,789,000 worth of products of which 98 per cent were war materials, including mattresses, shoes, gloves, canvas water tanks, bomb fins and noses, metal beds, food trays, and other items. Production of food in state and Federal prisons has also been increased to meet war needs. The War Production Board reports that 25,000 state prisoners were engaged in agricultural operations in 1943, with an increase of 10 per cent over the 1942 acreage, and that the volume of canning and dehydration of fruits and vegetables has nearly doubled in state prisons. Federal prisons harvested nearly $1,000,000 worth of farm produce in 1943, an increase of nearly 30 per cent over the previous year.

One of the most potent results of this war production program in prisons is the effect on inmate morale. Hundreds of prisoners have become regular donors to the Red Cross blood bank. In a recent campaign in state prisons throughout the country, prisoners subscribed $968,000 in War Bonds, or enough to buy three bombers. One of these bombers, the prisoners' committee requested be named "The Spirit of St. Germain." Arthur St. Germain was one of 63 prisoners at the State Prison Colony, Norfolk, Mass. who took part in an experiment to test the use of beef blood plasma in the human blood stream. St. Germain lost his life in the process and was posthumously pardoned for his sacrifice.

Other prisoners throughout the country are cooperating in a variety of medical experiments as human guinea pigs for the benefit of the men in war service everywhere. Thousands of prisoners have volunteered for induction into military service under the new program inaugurated by the War Department and the Selective Service System. Under this plan, approximately 2,000 have already been paroled and inducted into the Army. Since the new policy affects ex-prisoners also, it has been variously estimated that between 15,000 and 40,000 former prisoners have been inducted into military service.

JUVENILE DELINQUENCY AND THE WAR

Up to 1941, juvenile delinquency, so far as juvenile court records reveal, had been generally decreasing. It was assumed that improved probation work, child welfare services, and preventive work, were beginning to cope with the problem. In 1941, however, delinquency cases increased 7½ per cent over 1940. In 1942, delinquency cases increased 8½ per cent over 1941. This amounts to a 16 per cent increase in the two years. Boys' cases in 1942 increased 5 per cent but girls' cases increased 23 per cent. Although data for the year 1943 are not available, reports which are available indicate that the trend has continued, if not accelerated in 1943.

In normal times the number of delinquent boys appearing in juvenile courts far exceeds that of delinquent girls. The ratio of boys to girls has been about 5-to-1 during the past five years. The situation is, therefore, viewed with particular concern when it is learned that the number of cases of delinquent girls increased much more sharply than that of boys. In a recent report published by the Children's Bureau, it is pointed out that "Juvenile delinquency in war time does not present a totally new problem. Rather it presents an old problem in which some of the points of emphasis are different. Frequently it is the result of chronic conditions that have long existed without knowledge or concern on the part of the public of their possibly harmful effects. War has served to intensify the reactions of youth to these influences and to turn the spotlight of public interest upon them. The social and personal situations that foster behavior problems are similar in war and in peace, but the precipitating causes of the behavior may be different. Since this is true, we are dealing with a problem involving more than emergency and temporary measures that will not continue after the war."

In Britain, the increase in juvenile delinquency was much greater than in the United States. In 1941, the increase in delinquency was 52 per cent over the pre-war year. In 1942, however, there was a decrease of 14 per cent in delinquent children under 16 years of age. This is reported as being due largely to the extension of youth clubs and centers, and of pre-service training corps for boys and girls from 12 years old up. All these efforts are subsidized by the control government.

In connection with the problem of the treatment of the youthful offender, it is interesting to point out that the movement for the adoption of a Youth Correction Authority Act, which was described in the 1942 article in THE AMERICAN YEAR BOOK has gained momentum. Hearings on the Federal Corrections Act were held in 1943 before the Judiciary Committees of Congress. The proposed program is based on several year's study of the whole judicial and correctional program by a Committee of the Council of Federal Circuit Court Judges and the American Law Institute. California has already adopted a system for dealing with youthful offenders based on the American Law Institute's model youth correction authority act. Other bills embodying the principles of the Federal measure are being considered by the legislatures of New York, Rhode Island, and Virginia.

PAROLE

When Congress in 1941 amended the law forbidding enlistment into the military service of a person convicted of a felony and permitted the Secretary of War to make exceptions in meritorious cases, the parole situation throughout the country was immediately affected. There developed a wide interest in the use of parolees in the armed forces as well as in farm and industrial labor. To meet the situation many states found it necessary to pass supplementary or enabling legislation. In 1943, therefore, 29 state legislatures and the United States Congress considered 92 bills on parole and closely related subjects. Of these 44 bills passed, 35 failed of passage, nine were vetoed, three were pending, and one act, the California Youth Authority, became effective. In general, the legislative acts represent distinct gains and point to several important trends.

Most of the legislative proposals were aimed to liberalize eligibility for parole, facilitated release and discharge, suspended supervision, and broadened the powers of the paroling authority. Thus, 22 legislative proposals related directly to the use of war manpower, either in the armed forces or in farm or industrial labor. Although a considerable portion of this legislation was termed temporary, applying only for the duration of the war or while a national emergency existed, many others affected the basic structure of parole administration. In general, however, the legislation produced during the year were definitely on the constructive side and many permanent benefits will remain.

THE PROBLEM OF THE CONSCIENTIOUS OBJECTOR

So far three times as many men in the Second World War as in the First World War have been imprisoned because of some stand or conscientious scruple against war. Towards the end of the year, there were about 2,000 men in prison because of some conflict with the Selective Service laws. About two thirds of this group are Jehovah's Witnesses, practically all of whom demanded recognition as ministers of the gospel and were denied such classification by their draft boards.

The next largest single group is composed of a sect calling themselves the Negro Moslems, who claim to be Mohammedan converts whose creed forbids them to participate in war and who refuse to register. Another large group consists of those who have not been able to gain recognition as conscientious objectors of one kind or another and who refuse induction into the Army and those who, having accepted assignment to some Civilian Public Service Camp, refuse to work or leave the camp because of objections to military direction or to the lack of pay or some other reason. A comparatively smaller number of objectors are in prison for refusing to register at all.

All of these convicted men have been committed to the Federal penal institutions with sentences ranging from one to five years. A small group of these men have presented quite a problem in the institutions because of their extreme and uncompromising points of view and attitudes.

DEVELOPMENTS IN THE STATE PRISONS

In Georgia, the legislature with the leadership of Governor Ellis Arnell established a new State Department of Correction under a director with authority to abolish the present system of state and county road camps. The legislature also passed laws prohibiting the use of leg irons, chains, and similar devices on convicts in the State of Georgia. It is hoped that this will see the end of the unsavory Georgia chain gangs and the substitution of a progressive and modern state system of prison administration. In California, the Governor appointed a special committee to investigate conditions at the Folsom Prison following revelations that prisoners had been permitted to leave the institution on personal visits and that other laxities in prison administration existed. The Oklahoma Parole system was under fire during the year, and the Governor was indicted for selling paroles and pardons.

On the whole, however, state prison systems have been free of any serious disturbances. By the end of the year about 52 state institutions had been awarded the National Service pennant presented by the War Production Board for their contribution to the war production program.

PERIODICAL PUBLICATIONS

American Childhood
74 Park St., Springfield, Mass.

American Journal of Public Health and the Nation's Health
1790 Broadway, New York City.

American Journal of Psychiatry
9 Rockefeller Plaza, New York City.

Annals, The
American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.

Boy's Life
Boy Scouts of America, 2 Park Ave., New York City.

Journal of Home Economics
Mills Bldg., Washington, D. C.

Journal of Social Hygiene
1790 Broadway, New York City.

Social Research
66 West 12th Street, New York City.

Social Studies
809-11 North 19th Street, Philadelphia.

Social Work Today
112 East 19th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

JUSTICE AND MAINTENANCE OF ORDER

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut Street, Philadelphia.

AMERICAN BAR ASSN., 1140 N. Dearborn St., Chicago, Ill.

AMERICAN CIVIL LIBERTIES UNION, 170 Fifth Ave., New York City.

AMERICAN COUNCIL OF LEARNED SOCIETIES, 1219 16th St., N.W., Washington, D. C.

AMERICAN INSTITUTE OF CRIMINAL LAW AND CRIMINOLOGY, 357 E. Chicago Ave., Chicago, Ill.

AMERICAN LAW INSTITUTE, 3400 Chestnut St., Philadelphia, Pa.

AMERICAN PRISON ASSN. OF N. Y., 135 E. 15th St., New York City.

NATIONAL COMMITTEE ON PRISONS AND PRISON LABOR, 1860 Broadway, New York City.

NATIONAL CRIME COMMISSION, 73 Tremont St., Boston, Mass.

NATIONAL POLICE CONFERENCE, 240 Centre St., New York City.

NATIONAL PROBATION ASSN., INC., 1790 Broadway, New York City.

NATIONAL SOCIETY OF PENAL INFORMATION INC., 114 E. 30th St., New York City.

SOCIETY FOR THE PREVENTION OF CRIME, 18 East 48th St., New York City.

WOMEN'S PRISON ASSN., 110 Second Ave., New York City.

SOCIAL ORGANIZATIONS

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN POLITICAL SCIENCE ASSOCIATION, 105 Harris Hall, Northwestern University, Evanston, Ill.

AMERICAN RED CROSS, 17th between D and E Sts., N.W., Washington, D. C.

American Seamen's Friend Society, The, 175 Fifth Ave., New York City.

American Society for the Prevention of Cruelty to Animals, 50 Madison Ave., New York City.

Boys' Clubs of America, Inc., 381 Fourth Ave., New York City.

Boy Scouts of America, 2 Park Ave., New York City.

Camp Fire Club of America, 50 Union Square, New York City.

Children's Aid Society, 105 E. 22nd St., New York City.

Federal Council of the Churches of Christ in America—Commission on the Church and Social Service, 297 Fourth Ave., New York City.

Girls' Friendly Society of the U. S. A., 386 Fourth Ave., New York City.

Girls' Service League of America, 138 E. 19th St., New York City.

Humane Society of New York, 313 E. 58th St., New York City.

National Catholic Welfare Conference, 1512 Massachusetts Ave., N.W., Washington, D. C.

National Social Work Council, 1790 Broadway, New York City.

Young Men's Christian Assn., International Committee, 215 W. 23rd St., New York City.

Young Women's Christian Association, 600 Lexington Ave., New York City.

SOCIAL FRATERNITIES

Benevolent and Protective Order of Elks of the U. S. A., 2750 Lake View Ave., Chicago, Ill.

International Assn. of Lions Clubs, 332 S. Michigan Ave., Chicago, Ill.

Kiwanis International, 520 N. Michigan Ave., Chicago, Ill.

Knights of Columbus, P.O. Drawer 1670, New Haven, Conn.

Knights of the Ku Klux Klan, Inc., 3155 Roswell Rd., Atlanta, Ga.

Knights of Pythias, 1054 Midland Bank Bldg., Minneapolis, Minn.

Loyal Order of Moose, Mooseheart, Ill. (Supreme Lodge of the World).

Modern Woodmen of America, 1504 Third Ave., Rock Island, Ill.

Rotary International, 35 E. Wacker Drive, Chicago, Ill.

Sovereign Grand Lodge of the Independent Order of Odd Fellows, 16 W. Chase St., Baltimore, Md.

Supreme Council of the Royal Arcanum, 407 Shawmut Ave., Boston, Mass.

Supreme Council, 33° Ancient & Accepted Scottish Rite.—Northern Jurisdiction, 1117 Statler Bldg., Boston, Mass.—Southern Jurisdiction, 1733 16th St., N.W., Washington, D. C.

Woodmen of the World, 1447 Tremont Pl., Denver, Col.

(SOCIAL) HOME LIFE

Community Service Society of New York, 105 E. 22nd St., New York City.

Landlords' Co-operative Assn., 18 E. 41st St., New York City.

National Housing Assn., 105 E. 22nd St., New York City.

National Plant, Flower & Fruit Guild, 1192 Sixth Ave., New York City.

(SOCIAL) CHILDREN

Big Brother and Big Sister Federation, Inc., 425 Fourth Ave., New York City.

Big Brother Movement, Inc., 315 Fourth Ave., New York City.

Camp Fire Girls, Inc., 88 Lexington Ave., New York City.

Child Conservation League of America, 318 W. Washington St., Chicago, Ill.

Child Welfare League of America, 130 E. 22nd St., New York City.

Children's Aid Society, 105 E. 22nd St., New York City.

Committee on World Friendship Among Children, 297 Fourth Ave., New York City.

Hebrew Sheltering and Immigrant Aid Society, 425 Lafayette St., New York City.

National Child Labor Committee, 419 Fourth Ave., New York City.

National Child Welfare Assn., 70 Fifth Ave., New York City.

(SOCIAL) HEALTH

AMERICAN ASSN. OF SOCIAL WORKERS, 130 E. 22nd St., New York City.

AMERICAN FOUNDATION FOR THE BLIND, INC., 15 West 16th St., New York City.

AMERICAN HUMANE ASSN., 50 Madison Ave., New York City.

AMERICAN MISSION TO LEPERS INC., 156 Fifth Ave., New York City.

AMERICAN SOCIAL HYGIENE ASSN., 1790 Broadway, New York City.

ANTI-PROFANITY LEAGUE, Ware, Mass.

ASSOCIATION FOR RESEARCH IN HUMAN HEREDITY, 60 East 42nd St., N. Y.

BETTER FILMS, NATIONAL COUNCIL, 70 Fifth Ave., New York City.

BIRTH CONTROL FEDERATION OF AMERICA, 501 Madison Ave., New York City.

COMMUNITY SERVICE SOCIETY OF NEW YORK, 105 E. 22nd St., New York City.

NATIONAL COMMITTEE FOR MENTAL HYGIENE, 1790 Broadway, New York City.

NATIONAL HEALTH COUNCIL, 1790 Broadway, New York City.

NATIONAL COMMITTEE ON HOUSING ASSN., 105 E. 22nd St., New York City.

NATIONAL RECREATION ASSN., 315 Fourth Ave., New York City.

NATIONAL SAVE-A-LIFE LEAGUE, INC., 299 Madison Ave., New York City.

NEW YORK SOCIETY FOR THE SUPPRESSION OF VICE, 215 W. 22nd St., New York City.

NON-SMOKERS' PROTECTIVE LEAGUE OF AMERICA, 290 W. End Ave., New York City.

TRAVELERS' AID SOCIETY OF N. Y., 144 E. 44th St., New York City.

(SOCIAL) TEMPERANCE

ANTI-SALOON LEAGUE OF NEW YORK, 44 Howard St., Albany, N. Y.

NATIONAL TEMPERANCE SOCIETY, 287 Fourth Ave., New York City.

WORLD NARCOTIC DEFENSE ASSN., 578 Madison Ave., New York City.

FOUNDATIONS

CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE, 405 West 117th St., New York City.

CARNEGIE FOUNDATION, THE, 522 Fifth Ave., New York City.

CARNEGIE HERO FUND COMMISSION, 2307 Oliver Bldg., Pittsburgh, Pa.

CARNEGIE INSTITUTE OF WASHINGTON, 16th and P Sts., N.W., Washington, D. C.

GENERAL EDUCATION BOARD, 49 W. 49th St., New York City.

GUGGENHEIM FOUNDATION, 551 Fifth Ave., New York City.

HALL OF FAME FOR GREAT AMERICANS, New York University, University Heights, New York City.

MORO EDUCATIONAL FOUNDATION, 475 Fifth Ave., New York City.

ROCKEFELLER FOUNDATION, 49 W. 49th St., New York City.

ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, York Ave. and 66th St., New York City.

ROOSEVELT MEMORIAL ASSN., 28 E. 20th St., New York City.

RUSSELL SAGE FOUNDATION, 130 E. 22nd St., New York City.

WOODROW WILSON FOUNDATION, THE, 8 W. 40th St., New York City.

WOMEN'S WORK AND PROGRESS

AMERICAN ASSN. OF UNIVERSITY WOMEN, 1634 I St., N.W., Washington, D. C.

AMERICAN NURSES ASSN., INC., 1790 Broadway, New York City.

AMERICAN WOMAN'S ASSN., 111 E. 48th St., New York City.

GENERAL FEDERATION OF WOMEN'S CLUBS, 1734 N St., N.W., Washington, D. C.

GIRLS SERVICE LEAGUE OF AMERICA, 138 East 19th St., New York City.

NATIONAL AMERICAN WOMAN SUFFRAGE ASSN., Grand Central Terminal, New York City.

NATIONAL ASSOCIATION OF WOMEN ARTISTS, 42 W. 57th St., New York City.

NATIONAL COUNCIL OF WOMEN OF THE U. S., INC., 501 Madison Ave., New York City.

NATIONAL FEDERATION OF BUSINESS AND PROFESSIONAL WOMEN'S CLUBS, 1819 Broadway, New York City.

NATIONAL LEAGUE OF WOMEN VOTERS, 726 Jackson Place, Washington, D. C.

National Woman's Christian Temperance Union, 1730 Chicago Ave., Evanston, Ill.

Professional Woman's League, 164 W. 74th St., New York City.

Quota Club International, Inc., 1719 I St., N.W., Washington, D. C.

Woman's Roosevelt Memorial Assn., Roosevelt House, 28 E. 20th St., New York City.

Women's Educational and Industrial Union, 264 Boylston St., Boston, Mass.

Women's Trade Union League, 247 Lexington Ave., New York City.

DIVISION XVI

LABOR AND LABOR LEGISLATION

LABOR CONDITIONS AND LEGISLATION

By Witt Bowden

Bureau of Labor Statistics, Department of Labor

LABOR IN THE SECOND YEAR OF WAR

During the second year of direct participation by the United States in the Second World War, the needs for civilian labor and for men in the armed forces developed into acute shortages in some fields of employment. The needs were met by the drawing into the labor force of several million workers, mainly women not normally employed, and by various measures for more effectively utilizing the available labor supply.

The wage stabilization program of 1942 was extended in a manner that substantially checked increases in wage rates. The inflationary tendencies of earnings arising from higher wages and the longer work-week were largely counteracted by an extraordinary increase in production, reenforced by price controls, rationing, savings, and a large increase in taxes on wages. The outstanding wage controversies of the year were those in coal mining and railroad transportation, in which the distinctive occupations and national wage structures made inapplicable the procedures applied in other industries.

The continued division of labor complicated the problems of labor representation, both national and international. Imperfect observance of the no-strike agreement, in spite of the efforts of union officials in most instances to prevent strikes, occasioned the enactment of Federal and state laws for restricting unions and union activities. The unions and the Federal administration continued to advocate extensions of the social security system. Union policies and research programs dealt increasingly with post-war problems.

ESSENTIALS OF THE MANPOWER PROBLEM

The general problem of manpower was the maintenance of an adequate supply of labor for war production and essential civilian activities while ever-increasing numbers of workers were being drawn into the armed forces. The civilian labor force (excluding the institutional population and the armed forces) was 53,700,000 in November 1940, 54,500,000 in November 1942, and 51,900,000 in November 1943. Total employment rose from 46,300,000 in November 1940 to 52,800,000 in November 1942 and declined to 51,300,000 in November 1943. The maintenance of the civilian labor force at levels not far below those of 1940 in spite of the vast expansion of the armed forces was partly a result of the growth of the population but was mainly due to the influx of workers from groups of the population not ordinarily in the labor market. The increase of employment in 1943 above the levels of 1940 in spite of the large expansion of the armed forces was partly a result of the employment of unemployed workers. Unemployment fell from 7,400,000 in November 1940 to 1,700,000 in November 1942, and to

600,000 in November 1943. Virtually all of the unemployed in November 1943 were merely shifting from one job to another, so that it was no longer possible to increase significantly the number of workers by further reductions of unemployment.

The Selective Service Act provided for the expansion of the armed forces by drafting men and allocating them to the various branches of the service. There was general agreement, however, among representatives of labor, industrial employers, and farmers that the compulsory allocation of civilians to civilian jobs should be avoided. The War Manpower Commission's basic problem, therefore, was the working out of an effective voluntary system for civilian manpower. Such a system was expected to bring about a large expansion of the labor force. It was necessary also that the system function so as to direct the flow of manpower, nationally, locally, and by industry and occupation, in appropriate proportions and with adaptability to the varying requirements of the armed forces, war production, and essential civilian production. The Commission was also expected to see that its voluntary, cooperative program prevented any serious waste of labor resources and that it facilitated the efficient use of labor. An unprecedented volume of production was obtained under this democratic and flexible procedure.

PROCEDURES FOR HANDLING MANPOWER PROBLEMS

A survey of the acute manpower problem in the West Coast aircraft industry indicated (as revealed by the Baruch report of Aug. 19) that "the first and greatest gap in our manpower program is the failure, thus far, to apply any system of priorities to labor." There followed a new employment stabilization plan for the West Coast, later adopted in several other areas. Its essential feature was a preference rating or priorities plan for the allocation of labor, by cooperative action on the part of local agencies concerned with manpower problems. It called for the budgeting of employers in respect alike to their materials requirements and their labor needs, the materials priorities being integrated with priority or preference ratings for labor.

In December, 150 area employment stabilization plans were in operation and 11 regional plans had been adopted. These plans were worked out in consultation with the management-labor committees and were put into effect on a voluntary, cooperative basis. The minimum provisions of the regional employment stabilization plans were prescribed by the WMC, but in areas of acute labor shortages the plans went beyond the minimum requirements. Thus, 78 of the 150 area plans in November provided for "controlled referral" of workers. Under this plan an employer could hire workers in specified categories only when they were referred to him by the U. S. Employment Service or an approved agency. The specified categories of workers were limited in some areas to particular occupations but in other areas they included all workers.

The WMC also established employment ceilings to check the hoarding of labor and to require more efficient use of available labor. Adequate labor utilization surveys were required to support estimates of labor needs. As a result of various measures, the number of areas of acute labor shortage declined. The Dec. 1 classification of areas indicated that 15 communities had dropped from Group I (areas of acute labor shortage) to Group II (areas of labor stringency and those expecting a labor shortage within six months).

The WMC by the end of 1943 became concerned also with manpower as affected by cut-backs in production due to changes in strategic requirements. The curtailments of planned production in these limited fields led only to a small reduction in scheduled labor requirements but they were of marked importance in providing experience for the handling of reconversion after war production has reached its peak.

Policies were adopted to require

the transfer of workers, including those of draft age with children, to essential occupations as a condition of deferment. "Pre-Pearl Harbor fathers"—those of draft age with children born before Sept. 15, 1942—were declared to be no longer eligible for deferment after Oct. 1 on grounds of dependency. An act of Congress later modified these regulations, but the general policy of requiring transfer to essential industries and critical occupations continued.

DUTIES AND RIGHTS OF WORKERS UNDER MANPOWER CONTROLS

The control of the flow of labor by the WMC subjected workers to severe restrictions, the rigor of the restrictions varying with the local employment stabilization plans. A worker employed in an essential activity could obtain another job only if he obtained a statement of availability. A person could be hired from an essential activity at higher pay only with the approval of the local employment office or of the local War Manpower Director. Workers in some occupations and in some areas could be hired only through the U. S. Employment Service. New men could be hired only at a rate of pay not in excess of the rate previously paid for the same type of job, and if a man was hired for a new job the compensation for the job must not be in excess of the rate prevailing in the local labor market area.

Rights and safeguards accompanied the restrictions. An employee could claim a statement of availability if he could prove his competence to perform work of a greater degree of skill; if he was not employed at full time; if he had been laid off or discharged; if his work was too far from his place of residence; if his working conditions were not as favorable as those prevailing in the community for the same kind of work; or if compelling personal reasons could be advanced. A worker could obtain a statement of availability from the U. S. Employment Service or from a local War Manpower Director. Employment stabilization programs ordinarily contained safeguards of the seniority rights of workers who obtained transfers through statements of availability. An employer retained the right to discharge a worker but was normally required to grant a statement of availability. The local program usually also contained arrangements for appeals by the employee or the employer from actions by the WMC. The area management-labor committee was frequently named as the appeals agency. The rights of membership in unions were also safeguarded by the local employment stabilization programs.

SOURCES OF LABOR SUPPLY

The largest potential labor supply in 1943 consisted of women. Studies of job requirements and of women's capacities indicated that not less than 80 per cent of jobs in war industries could be handled by women. The U. S. Employment Service listed 1,800 war occupations and 900 non-war occupations in which women had demonstrated their competence by actual experience. The recruiting of women workers was undertaken largely by the U. S. Employment Service. The mobilization of women for wartime employment was encouraged by protective policies, such as one day of rest in seven, maximum working time of 8 hours per day and 48 hours per week, and arrangements for meals, rest periods, medical care, health, and safety. The principle of equal pay for equal work was embodied in various decisions of the National War Labor Board.

During the earlier stages of war production, expansion depended largely on men. From October 1939 to April 1942, only 484,000 of the 3,134,000 net additional factory workers hired were women, the proportion of women being only 15.4 per cent. In contrast, from April 1942 to June 1943, 1,833,000 net additional workers were hired, and 83.2 per cent of these were women. The proportion of women in the heavy industries greatly increased. The number in the durable-goods industries rose from 340,000 in October 1939 to 1,814,000 in June 1943. In the aircraft, shipbuilding, and locomotive group of industries, only one per cent of the labor force consisted of women in October 1941, in contrast to 20 per cent in June 1943.

Women workers took their places prominently in war industries. Children and other wartime additions to the labor force more commonly held jobs in other industries but released men for war jobs or for the armed forces. The increase in child labor may be illustrated by the experience of New York City, where, for every child receiving a standard permit in July 1940, 14 received permits in July 1943, and for every child receiving a vacation permit in July 1940, 16 received such permits in July 1943. The use of child labor for maintaining essential activities without permitting abuses and interferences with the health and education of children created a serious national problem.

The U. S. Employment Service undertook an occupational analysis of work for which the physically handicapped could fit themselves. It was estimated that there were about 2,500,000 physically handicapped persons not employed and that about three-fourths of these were employable. Employers were aided in adapting their work to the limitations of handicapped persons. Still another source which the WMC attempted to draw upon more fully was the labor of minority groups, especially Negroes. The problem in this field consisted largely of the opening up of jobs for these workers at their highest skills in essential industries. Many part-time jobs were filled by regularly employed workers who found it possible to do some additional work in other employments. Employers were encouraged to rearrange their regular jobs when practicable for shifts of part-time workers.

SHIFT OF WORKERS TO ESSENTIAL ACTIVITIES

The movement of workers from relatively non-essential industries to essential war work continued in 1943. Employment in the durable-goods industries rose 12.3 per cent from October 1942 to October 1943. Employment in the non-durable goods industries, in contrast, underwent a slight decline of 2.2 per cent. Increases occurred in some of the non-durable-goods industries that are essentially war industries, as the chemicals and allied products group (9.8 per cent) and the rubber products group (15.4 per cent). Many of the war industries had attained substantially peak levels of production and employment by 1943. Employment in blast furnaces, steel works, and rolling mills, for example, declined slightly after the introduction of the 48-hour work-week. The changing status of war production gave rise to variations in the flow of workers. The machine-tools industry, which had expanded with exceptional rapidity earlier in the war, reduced the number of employees by 18.8 per cent between October 1942 and October 1943. The transportation equipment group of industries (excluding automobiles) continued to expand but at a much slower rate than in the earlier war period. The increase between October 1942 and October 1943 was 26 per cent. Employment in the manufacture of agricultural machinery and tractors rose sharply as a result of a more liberal policy of allocating materials. A major shift in employment was in the construction field. The wartime peak of more than 2,000,000 workers was passed in the fall of 1942. The number in November 1942 was 1,896,000, and in November 1943 only 865,000.

REGIONAL SHIFTS IN EMPLOYMENT

Changes in employment were uneven geographically as well as in respect to industrial classifications. Thus, in the New England States, factory employment declined 9.5 per cent in Maine between September 1942 and September 1943, and increased 7.1 per cent in Massachusetts. In the Middle Atlantic States, the most noteworthy change was an increase of 7.9 per cent in New York, employment in the other states also undergoing moderate increases. There were significant increases in all of the east north Central States and in most of the west north Central States, particularly in Minnesota, Missouri, Nebraska, and Kansas. In the South Atlantic States, declines were experienced in some areas, particularly in Virginia and South Carolina, the most noteworthy increase being in Florida. In the west south Central States, Oklahoma and Texas experienced large increases, the rise in Oklahoma being 57.6 per cent, in contrast to a decline of 17.2 per cent in Arkansas. Moderate changes occurred in most of the east south Central, Mountain, and Pacific States.

The changes in employment in metropolitan areas between October 1942 and October 1943 showed extreme variations. Reductions occurring in 12 areas ranged from 0.2 per cent in the area of Albany, N. Y., to 13.9 per cent in that of El Paso, Tex. Increases occurring in 61 areas ranged from 0.3 per cent in the area of Knoxville, Tenn., to 186.4 per cent in that of Oklahoma City, Okla.

TRAINING FOR WAR WORK

A major change in the training program was its adaptation to the special needs of women, who, in 1943, formed the major labor reserve. It was reported in September that the Federal Government had provided training for 800,000 women for specific types of work in war production plants. When the program authorized by Congress was first inaugurated in July 1940, only 2 per cent of the trainees were women, in contrast to 37 per cent in July 1943.

A significant development in the training of both men and women was the expansion and improvement of the training within industry program. This work was carried on with the cooperation of both labor and management and was aided by experts operating under the general direction of the WMC. Intensive courses of 10 hours were offered to supervisors in job instruction training (breaking in men on new jobs), job methods training (the simplification and improvement of methods or techniques of work), and job relations training (the spirit and methods of teamwork). Special courses of 48 hours were given for preparing men to serve as training directors in the operation and improvement of plant-wide training programs. Particularly important was the development, in job instruction training, of a simplified, standardized, and yet flexible procedure to aid supervisors in passing on their skills to others who were being trained to break in new men.

The Apprentice Training Service greatly expanded its operations, especially in the establishment of short-term training programs. These programs, designed primarily to aid in relieving labor shortages in war production, increased in number from 175 in November 1942 to 1,315 in November 1943.

LENGTHENING OF THE WORK-WEEK

Hours of work in most of the war industries had risen sharply between 1939 and 1942, but increases continued. Average hours in manufacturing as a whole rose 4.1 per cent between October 1942 and October 1943. The average of 45.4 hours in October 1943 indicated that most manufacturing industries were operating on a normal schedule of 48 hours. An outstanding rise was the increase of 13.8 per cent in blast furnaces, steel works, and rolling mills, largely a result of the adoption of the 48-hour week and the readjustment of shifts. Other manufacturing industries in which exceptionally large increases in average hours occurred included agricultural machinery (excluding tractors), slaughtering and meat packing, cane sugar refining, paper bags, paints and varnishes, soap, fertilizers, and the products of petroleum and coal. Exceptional increases in the non-manufacturing industries occurred in bituminous-coal mining, anthracite mining, and crude petroleum production. The increases in coal mining were largely a result of the adoption of the 6-day week.

On Feb. 9, 1943, the President issued an Executive Order establishing the 48-hour week as a criterion of effective utilization of manpower. This 48-hour rule referred to the shift or schedule of 48 hours, not to the weekly average as reported by the Bureau of Labor Statistics. Average weekly hours are lower than scheduled or shift hours because of the inclusion of workers who do not work during the whole of the week. The WMC, which administered the 48-hour order, specified the areas and activities to be subject to the provisions of the order. By the end of the year, the rule had been applied in a majority of the labor shortage areas, the rule being mandatory in areas of acute shortages (Group I areas). It was found that the main effect of the 48-hour week was not the release of workers but the cutting down of demands for additional workers.

Many establishments had shifts or scheduled hours much longer than 48 hours. The industry averages, as distinguished from scheduled hours, ranged in October 1943 as high as 55 hours; and the averages, being affected by the hours of the many workers who were not at work during the whole of the scheduled week, were materially lower than the scheduled hours. The rise in average weekly hours in 1943 was retarded by the extensive mobilization of part-time workers.

The 48-hour week had been recommended by an interdepartmental committee as a maximum for sustained efficiency in most industrial occupations. It was stated that hours in excess of 48 had proved necessary in some instances owing to a limited supply of supervisory and skilled manpower, but it was stated that plants which were employing individual workers longer than 48 hours per week should carefully reexamine the possibilities of reducing hours.

THE PROBLEM OF LABOR TURNOVER

The separation rate and the accession rate (the number per 100 employees) necessarily underwent extreme fluctuations under wartime conditions. Both rates were much higher in the war years than in 1939. Primarily important under war conditions, however, are voluntary separations (the quit rate). This rate in 1943 was unusually high. Thus, in manufacturing the rate in September was 6.25 as compared with 5.19 in September 1942 and 1.07 in September 1939.

Much of the turnover arose from such causes as military separations, transfers to essential activities, and job shifts for utilizing the highest skills of workers. Much of the undesirable turnover arose from unsatisfactory industrial relations and from unfavorable conditions, often remediable, in the new and congested war production centers. Whatever the causes, excessive labor turnover was sometimes described as the major manpower problem. It was largely for the purpose of holding labor turnover in check that workers who shifted from essential jobs were required to obtain statements of availability.

INDUSTRIAL ACCIDENTS

The industrial injury frequency rate (the number of disabling industrial injuries for each million employee hours worked) rose in manufacturing industries from 14.9 in 1939 to 19.9 in 1942. Monthly figures available for 74 manufacturing industries indicate that 44 of these had cumulative rates for the first nine months of 1943 which were significantly higher than in 1942. The rise in 15 of these was at least five frequency-rate points. Only 18 of the 74 industries showed significant declines. It is estimated that 591,000 factory workers experienced disabling injuries in the first nine months of 1943, this number being 93 per cent of the total number in all of 1942.

The number of employees injured per million man-hours in railroad work was 11.7 in the first eight months of 1943 as compared with 7.03 in 1939, an increase of 66 per cent. The number killed per million man-hours rose from 0.207 in 1939 to 0.261 in the first eight months of 1943. This later period witnessed a slight decline in fatal accidents per million man-hours over the same period of 1942, but the number injured showed a significant increase.

An important extension of the Department of Labor's accident prevention work in 1943 was the in-plant training program. In October 1943, in-plant safety training courses for 625,000 foremen were being conducted in plants involving the safety conditions of more than 12,500,000 war production workers. By that date, 40,000 war plant supervisors had completed safety training courses conducted in 116 engineering colleges. Consultation services were offered to smaller war plants by special agents of the Department of Labor.

ABSENTEEISM

The absence rate is defined as whole days of work lost because of absences, whether excused or unexcused, as a per cent of man-days scheduled. Figures are not available prior to 1943. The absence rate for the 28 manufacturing industries covered since March 1943 underwent only minor changes from March to October. The rate in bituminous-coal mining rose significantly, one of the causes being the general adoption of the six-day week.

Data relating to absenteeism had primary significance for making comparisons between industries and between plants for the purpose of locating exceptional absenteeism, analyzing the causes, and providing remedies. Wartime production was accompanied by difficulties that interfered with regularity of work. Unsatisfactory housing conditions in many of the war areas, together with inadequate transportation, made regularity of work difficult for many war workers. The long hours, the relaxations of labor standards, and the stress and strain of war work often caused exhaustion and illness, especially among inexperienced workers. The fact that all adult members of many households were at work created problems of shopping, housekeeping, and child care. Methods of controlling or reducing absenteeism, as recommended by the WMC, emphasized removal of the major causes by dealing with the problems of housing, transportation, marketing and other community facilities, illness, fatigue, and accidents. The most effective remediable actions were worked out cooperatively by labor and management and the appropriate public agencies.

SPECIAL PROBLEMS OF THE FARM LABOR SUPPLY

Farmers before the war had for a long time rarely experienced any difficulty in hiring workers. The sudden expansion of demand for farm products, combined with the drawing off of farm workers into nonagricultural pursuits and into the armed forces, led to an act by Congress granting special deferment status to farm workers. War unit values were assigned to all crop and livestock products important in war production, these values to be considered by local boards in passing upon eligibility for deferment. The basic war unit value was described as the amount of labor required to keep one dairy cow, and it was estimated that as a national average the equivalent of about 16 basic war units should be required for deferment.

A special appropriation approved on April 29 was made available for the recruiting of workers and for their placement on farms. During the next four months, about 900,000 workers registered for farm work. About 700,000 of these were local U. S. Crop Corps workers, comprising 250,000 men, 150,000 women, and 300,000 boys and girls. Arrangements were also entered into for the bringing in of foreign workers for use on farms. A small amount of farm work was done by members of the armed forces who volunteered for farm work.

Workers were encouraged to remain on farms or to seek employment on farms by the exempting of farm wages from the stabilization program. Wages form only a small proportion of farm costs, but farmers were aided in meeting higher wages and other production costs by price and subsidy policies. Public policies were also developed for increasing the efficiency of farm labor, and the total amount of farm production in 1943 was about 20 per cent larger than in 1939 in spite of a reduction in the average number of farm workers.

The various measures taken to maintain the farm labor supply resulted in a substantial stabilization of farm employment in 1943 at levels close to those of 1942. The number of farm family workers in October 1943 was 2.1 per cent larger than in October 1942, an increase which somewhat more than counterbalanced a decline of 5 per cent in the number of hired workers. The combined number on Oct. 1, 1943 was 11,938,000, composed of 8,834,000 farm family workers and 3,104,000 hired workers. October is normally a month of somewhat more than average employment of both family workers and hired workers.

WAGES IN RELATION TO MANPOWER

Workers were attracted to war industries by comparatively high wage rates, and the longer hours prevailing in these industries continued to offer the inducement of higher weekly earnings. The stabilization program, as modified in October 1942, still permitted certain increases in wages for aiding in the effective prosecution of the war, and this was commonly interpreted to mean that wage adjustments could be made for enabling employers to keep their workers or for directing the flow of workers into the most important channels of war production. Such adjustments were made, for example, in the lumber and non-ferrous metals industries. The NWLB announced a policy of making wage adjustments for maintaining manpower only on the basis of supporting evidence presented by other agencies, particularly the WMC. The WMC and the WPB worked out a joint plan for making representations to the NWLB in cases in which wages were viewed as the decisive factor in a company's ability to secure and hold an adequate labor force.

CHANGES IN THE NATIONAL WAR LABOR BOARD

The NWLB, by an Executive Order of Oct. 3, 1942, was given greatly increased authority. This extension of authority provided that no adjustments in wage rates, or in salary rates under $5,000, even when desired by both of the parties, could be made without the Board's approval, except in specified fields, as that covered by the National Railway Labor Act. Small employers and certain types of wage adjustments were exempted by the Board in its general orders.

The additional volume of work resulting from the extension of the Board's authority led to the establishment of 12 regional offices. Each office became a regional board, with labor, employer, and public representatives, and with authority to make final decisions subject to review by the National Board, which became in a sense "a supreme court for labor disputes," handling appeals and major cases and issuing general policy directives. Tripartite commissions continued to handle special problems, as in shipbuilding.

More than 109,000 voluntary wage and salary adjustment cases were submitted to the Board in the year, following Oct. 3, 1942, when the Board was given authority over such cases. Final rulings were issued in more than 82,000 cases. About 10,000 cases were withdrawn by the parties or were referred back for additional information, leaving a backlog of 17,000 cases.

In December 1943, two additional measures were taken to speed up the work of the Board. Two full-time tripartite appeals committees were established to make recommendations to the Board for the disposition of appeals petitions. A tripartite review committee was set up to make recommendations in the cases in which the Board retained original jurisdiction.

The Board's authority was given explicit statutory basis by the War

Labor Disputes Act of June 25. The Board was then authorized to decide disputes, to order the terms and conditions governing the relations between the parties, and to subpoena witnesses and documents.

CHANGES IN WAGE STABILIZATION POLICIES

Major changes in wage stabilization policies centered around the interpretation and administration of the Stabilization Act approved Oct. 2, 1942. This act was designed to stabilize prices, wages, and salaries at the levels of September 1942. Adjustments under the Fair Labor Standards Act were exempted, and changes for correcting gross inequities and aiding in the effective prosecution of the war were still permissible.

The continued rise of prices and increases in wages and other forms of income led to the issuing of the Executive Order of April 8, commonly described as the "Hold-the-Line" Order. No further increases in wages were to be permitted except in accordance with the Little Steel formula or when clearly necessary to correct substandards of living. The WMC was directed to make regulations to prevent the transfer of employees to jobs paying higher wages unless such transfers would aid in the prosecution of the war.

The "Hold-the-Line" Order departed from the express terms of the Stabilization Act of Oct. 2, 1943, in omitting reference to correcting inequalities and gross inequities or aiding in the effective prosecution of the war. The Director of Economic Stabilization on May 12, 1943, issued a policy directive for clarifying the Order of April 8. This directive returned to the express terminology of the Act of Oct. 2, 1942, and authorized the correcting of gross inequities and the making of adjustments for aiding in the effective prosecution of the war. These corrections and adjustments were permitted by the device of changes in local wage-rate brackets.

The NWLB, in its instructions to regional boards, defined a wage bracket as "a range, from minimum to maximum, of stable, tested rates for a given occupation in a given labor market." The regional boards were directed to establish such brackets for the major job classifications in the key industries in their regions. In an illustration given for the guidance of the boards, it is supposed that the wage bracket for common labor is to be determined for a metropolitan area. For this purpose, the regional board would collect the rates paid for common labor in an adequate sample of the plants in the area. A chart constructed from the data thus collected might show one plant paying 58 cents an hour, another 60 cents, another 62 cents, another 65 cents, and 15 or 20 plants paying 70 cents, with scattered rates above that figure in other plants. In this example, the minimum going and tested rate would be 70 cents an hour. Rates in plants paying less than 70 cents could be raised to that figure. The Board would not raise the common-labor rates to the weighted average, which, in the above instance, might be 77 cents, but only to 70 cents, the minimum going rate. Regional boards were permitted tentatively, as a "rule of thumb," to substitute for the minimum going rate a rate 10 per cent below the weighted average rate.

METHODS OF ADJUSTING WAGES

The actual application of the new wage stabilization program involved in fact, a number of procedures and a high degree of flexibility, except in such industries as coal and railroad transportation which had distinctive national wage structures. Adjustments of several kinds were described as permissible by the Economic Stabilization Director. These included (1) adjustments for conformity to the minimum sound and tested going rates; (2) adjustments above the minimum going rates when required by the critical needs of war production; (3) adjustments in interrelated job classifications to maintain equitable wage relationships and productive efficiency; (4) adjustments under the Little Steel formula; (5) the correcting of substandards; and (6) several types of changes grouped together and described as including reclassifications, merit advances, and increases under incentive plans.

Wage increases also resulted from the application of minimum wage laws, especially the Fair Labor Standards Act. During the year, the 40-cent minimum was established, or recommendations of industry committees were made for that minimum, in industries employing about 12,500,000 workers. About 650,000 of these workers had been paid less than 40 cents per hour.

CHANGES IN WAGES

The amount received by a worker per week or per day depends upon the number of hours worked or, in piece work, upon the number of items produced. When hours of work and productivity are increasing, the stabilization of weekly earnings would necessarily mean a reduction in rates. The NWLB policy of applying wage stabilization to basic rates was consistent with the policy of stabilizing prices, which relate to the amount received for a given item produced or sold and not to the total amount received by a farmer or a manufacturing firm. Changes in wages as related to the stabilization program are therefore changes in rates of compensation. Estimates of the changes in basic rates, however, can not be wholly isolated from those changes in earnings that are due to other factors.

The change in the stabilization program adopted in October 1942 called, as was previously stated, for the stabilizing of wage rates as far as practicable at levels of September 1942. Changes in wage rates after the adoption of the new program in October 1942 were comparatively slight. Average hourly earnings in manufacturing industries rose, it is true, from $0.893 in October 1942 to $0.989 in October 1943, or 10.8 per cent, but this increase was larger than the rise in rates. A part of the increase in earnings was in the form of additional pay for a larger proportion of overtime at premium rates, and the rise in straight-time hourly earnings in manufacturing was only 9.2 per cent. Another part of the rise in average hourly earnings was in the form of additional pay to workers who shifted from low-wage employments to such high-wage industries as shipbuilding, aircraft, and agricultural machinery. When the effects of the inter-industry shifts in employment were eliminated, as well as the effects of premium payments for overtime, hourly earnings in manufacturing rose only 7.3 per cent between October 1942 and October 1943, and part of this increase may have been a result of changes other than increases in rates, such as reclassifications, merit increases, and shifts in the composition of employment within industries.

Among the non-manufacturing industries, the increases in average hourly earnings from October 1942 to October 1943 ranged from 3.8 per cent in the telephone and telegraph industry to 15.4 per cent in year-round hotels. In the largest of the non-manufacturing industries, namely, retail trade, the increase was 8.7 per cent. No change occurred in the basic rates of wages and salaries of Federal employees, but a temporary addition was authorized by Congress to compensate for overtime work beyond 40 hours and up to 48 hours per week. Workers in one of the major non-manufacturing industries, namely, railroad transportation, received no wage increases either in 1942 or in 1943. The increases of 8.7 per cent in average hourly earnings in bituminous-coal mining and of 8.3 per cent in anthracite mining between October 1942 and October 1943 were largely a result of the adoption of the six-day work-week with wages at time and one-half for the sixth day. The effects of the coal-mining wage adjustments negotiated toward the end of 1943 are not reflected in these percentage changes.

FARM WAGES AND INCOME

Farm wages had lagged seriously, up to 1939, behind the general movement of wages. The index of farm wage rates in 1939 was only 23 per cent higher than in the farm price parity period of 1910 to 1914, whereas, the wages of many groups of nonfarm workers had doubled. In October 1939, the weighted average farm wage rate per month was $31.13, and the rate ranged from $56 in California to $15.75 in South Carolina. The general rate rose to $54.41 in October 1942, and there was a further rise of 27 per cent, to $69.27, by October 1943. The increases after 1939 were extremely varied, the major increases being west of the Mississippi River and, as a rule, in areas where farm wages were already comparatively high.

Farm wages were as a rule exempted from the stabilization program. Maximum rates were established, however, in certain localities for particular kinds of work, as the harvesting of asparagus for canning and freezing in certain counties of California.

The rise in farm wage rates was accompanied by a much larger increase in the income of family workers on farms. The average net income per farm family worker approximately trebled between 1939 and 1943 and rose about 31 per cent between 1942 and 1943.

PRICES AND COST OF LIVING

The Bureau of Labor Statistics index of cost of living had continued to rise sharply up to the end of 1942, the index in December 1942 being 9 per cent higher than in December 1941. The first reversal in the wartime upward movement of the index occurred between May and June 1943, and in the latter part of the year the index remained slightly below the high point of May 1943. The index in November 1943 was 3.6 per cent higher than in November 1942. There was no increase in rents. The increases in the other main items were as follows: clothing, 5.6 per cent; food, 4.7 per cent; miscellaneous, 4.4 per cent; house furnishings, 2.3 per cent; and fuel, electricity, and ice, 1.7 per cent. Increases in the various large cities covered by the cost of living surveys ranged, between November 1942 and November 1943, from 1.7 per cent in Boston to 6.7 per cent in Savannah, Ga.

The general index of wholesale prices rose 30.1 per cent between 1939 and November 1942, as compared with a rise of 20.5 per cent in the index of the cost of living. The advance in wholesale prices between January 1941 and November 1943 was 27.4 per cent. The rise between November 1942 and November 1943 was 2.6 per cent as compared with the rise of 3.6 per cent in the cost of living. The extent of change in wholesale prices ranged by major groups from a decline of 1.1 per cent in hides and leather products to an increase of 9.9 per cent in farm products. These indexes relate to prices in primary markets. The general index of prices received by farmers rose 13.6 per cent.

The major factor in the checking of the upward movement of prices was the unparalleled and highly significant increase in the productivity of labor and industry. Vitally important aids were price ceilings, rationing, production subsidies, and wage stabilization. There remained the strong pressure of rising income payments against a restricted supply of goods and services for consumption. This pressure, however, was in part relieved by taxation and savings. The Victory tax, effective in January 1943, provided for the withholding of 5 per cent of wages and salaries beyond $12 per week. A later tax law incorporated the Victory tax in a general withholding tax of 20 per cent on wages and salaries after exemptions and deductions which varied with the number of dependents and which amounted, for example, for a worker with a wife and one child to $30 per week. The program for stimulating voluntary savings included a general deduction of 10 per cent for the purchase of bonds.

CRITICISM OF USES OF COST OF LIVING INDEX

The NWLB made use of the Bureau of Labor Statistics cost-of-living index in its Little Steel formula, which limited general increases in wages to 15 per cent, the extent of the rise of the cost-of-living index between January 1941 and May 1942. Labor organizations criticised this policy not only because the index of the cost of living continued to rise after May 1942 but also because the index, it was held, failed to reflect adequately the actual changes in the cost of living. A committee of the American Statistical Association evaluated the index as to its construction and its uses. The principal conclusions of the committee were, first, that within the limitations established for it, the index provides a trustworthy measure of changes in the prices paid by consumers for goods and services; and second, that many of the difficulties and doubts that had arisen concerning the index had their origins in attempts to use it uncritically for purposes to which it was not adapted.

Labor organizations continued to express dissatisfaction with the uses made of the index. It was held that the index was not a fair yardstick for wage stabilization because of wartime cost factors inadequately reflected by the index. Factors widely mentioned included a deterioration in the quality of goods; fewer bargain sales; the added cost of maintaining additional establishments by many workers temporarily in war production centers; the added cost of transportation and other expenses connected with jobs at abnormal distances from the homes of workers; the enforced purchase of homes; higher taxes; and additional expenses resulting from the lengthened work-week, such as greater dependence on commercial services and the greater difficulties of shopping. Late in the year the President appointed a special committee of the NWLB to make a further inquiry.

INDUSTRIAL DISPUTES AND STRIKES

The major industrial disputes were in coal mining and railroads, discussed later, and in the steel industry. The major work stoppages were in coal mining and steel. In neither case was a formal strike ordered; technically, the men stopped work on the ground that their contracts had expired.

In the steel industry, the central issue was the Little Steel formula, which would be breached by the granting of the demand of the United Steelworkers of America for an increase of 17 cents per hour. The union on Dec. 7 requested the NWLB to order an extension of the existing contracts, with a retroactive clause. The stoppage of work came about when disagreement between the labor, industry, and public members over the retroactive clause prevented the Board from ordering the extension of the contracts before some of them expired on Dec. 24. The President then intervened and arranged a compromise retroactive agreement. The men were ordered back to work, and the Board then adopted an order, with a retroactive clause, extending the contracts.

The major importance of the work stoppages in coal mining is indicated by the fact that about 8,500,000 of the estimated total of 12,785,000 man-days of idleness during all strikes in the first 11 months of 1943 were in the coal industries. The number of strikes rose from 2,821 in the first 11 months of 1942 to 3,425 in the same period of 1943; the number of workers involved, from 781,000 to 1,659,000; and the man-days of idleness, from 3,900,000 to 12,785,000. Including the coal strikes, the man-days of idleness in the first 11 months of 1943 were about one-seventh of one per cent of available working time; excluding the coal strikes, about one-twentieth of one per cent.

Most of the strikes lasted for a shorter time and involved fewer workers than in former years. These short local stoppages had varied causes but many of them were a result of maladjustments in working conditions and industrial relations incident to rapid expansion. A basic cause of unrest was the fact that increases in earnings were substantially checked at a time when the Victory tax, later the 20 per cent withholding tax, and the 10 per cent deduction for bonds were seriously reducing earnings actually available for use, while at the same time the cost of living continued to rise. Net spendable earnings were reduced for a large proportion of workers. Furthermore, many workers resented the rigorous adherence to wage stabilization while the average incomes of many non-wage groups were rapidly rising.

WAGE DISPUTE OF RAILROAD NON-OPERATING

Railway labor organizations began negotiations for wage changes in September 1942. The non-operating employees, numbering more than 1,000,000, and represented by 15 unions, requested a general increase of 20 cents and a minimum of 70 cents per hour. Negotiations between the parties and mediation proceedings of the National Mediation Board failed to adjust the dispute. After the jurisdiction of the National Railway Labor Panel had been reaffirmed by an Executive Order of Feb. 4, 1943, the Chairman of the Panel appointed an Emergency Board under the National Railway Labor Act.

The distinctive nature of railroad occupations and the nation-wide structure of railroad wages made it necessary for the Board to depend mainly for wage comparisons on the relative changes in railroad and non-railroad wages. The Board gave primary consideration to the relatively very small increase in railroad wages in 1941 and 1942, and concluded that on this basis a gross inequity of not less than 8 cents per hour existed. It therefore recommended a general increase of 8 cents. The Board also mentioned the serious lag in railroad wages at the beginning of 1941, the continued rise in other wages and income in 1943, and the unfavorable overtime arrangements of railroad workers, their overtime not beginning until after 48 hours.

DISAPPROVAL OF RAILROAD BOARD'S RECOMMENDATIONS

The Director of Economic Stabilization on June 22 disapproved the recommendation for an 8-cent increase for the non-operating railroad employees. On June 30 he directed that the Emergency Board might reconsider the case with a view to making adjustments for correcting substandards and allowing smaller increases at higher wage levels for interrelated job classifications.

The Chairman of the Emergency Board stated, however, that the Board had ceased to exist and that he had no authority to call it together again. He stated also that the Director of Economic Stabilization, in seeking to mold the terms of settlement of the dispute, as distinguished from passing upon the amount of the recommended increase, was exercising a function entrusted exclusively to the Emergency Board; that the Board had already given careful consideration to the substandard test and had concluded that the suggested procedures were unworkable; and that there was no basis for changing the long established wage relations or for altering the existing differentials.

On Aug. 7, representatives of the unions and the carriers met and entered into an agreement in accord with the recommendations of the Emergency Board for the general increase of 8 cents, subject to official approval. Thus, the dispute between the parties was brought to an end, the remaining disagreement being between the unions and the Office of Economic Stabilization.

The Director held that a nation-wide railroad wage adjustment would be a dangerous breach in the stabilization wall. The unions argued that the railroad wage structure had been created, long maintained, and at long intervals modified, by nation-wide action; that a serious lag existed; and that the wage adjustment procedure used by the NWLB to meet the highly variable and diversified conditions of war production and localized industry, and now offered as the only substitute for the Railway Labor Act procedure, was wholly inapplicable.

WAGE DISPUTE OF RAILROAD OPERATING EMPLOYEES

The operating employees (train and engine and yard service employees engaged in the actual movement of freight and passenger trains, numbering about 315,000 workers) initiated a movement for wage adjustments early in December 1942. They demanded an increase of 30 per cent in basic daily wage rates, with a minimum increase of $3, most of the employees being covered by the demand for an increase of $3. This dispute, like that of the non-operating employees, at length reached the stage of appointment of an Emergency Board.

This Board was in the process of holding hearings when, on June 22, the Director of Economic Stabilization issued his order disapproving the recommendation of the Emergency Board which handled the non-operating employees' dispute. The Board, which reported on Sept. 25, found that the operating and the non-operating groups had similar claims for wage adjustments. In addition, the mileage basis of pay of road service employees was operating, under war conditions, to the disadvantage of these workers because of lowered speed of trains. Away-from-home expenses had also become more burdensome to road service employees.

The Board stated that the employees had made out a strong case for a wage increase to correct gross inequities and to aid in the effective prosecution of the war, but that in view of the disapproval by the Economic Stabilization Director of the recommendations in the non-operating case, its recommendation would have to be limited to an increase of 32 cents in the basic daily rate (4 cents per hour) under the Little Steel formula. One member dissented in favor of a recommendation to remedy the gross inequity.

The recommendation of the Emergency Board was approved by the Director of Economic Stabilization on Oct. 16. It was rejected, however, by the unions, and the dispute remained unadjusted.

RAILROAD STRIKE VOTES AND INTERVENTION BY THE PRESIDENT

A further effort was made to settle the non-operating wage dispute by means of a special board appointed Oct. 16. The unions held that this board had no authority under the Railway Labor Act because the dispute between the unions and the carriers had been settled by the agreement of Aug. 7. When the board on Nov. 4 made its recommendation, in conformity with the advice of the Director of Economic Stabilization, the unions refused to accept it. Instead, they requested Congressional intervention. A joint resolution declaring that Congress approved the recommendation of the Emergency Board in the non-operating case and affirming the continued operation of the Railway Labor Act was passed by the Senate on Dec. 9 by a vote of 74 to 4.

The five brotherhoods of operating employees as well as the 15 unions of non-operating employees had already taken strike votes. On Dec. 15 the five brotherhoods announced plans for a strike beginning on Dec. 30, and the unions of non-operating employees later issued a strike call for the same date. The President intervened on Dec. 19 and suggested that the disputes be submitted to him as arbiter. The offer was accepted by two of the brotherhoods and conditionally by the 15 unions representing the non-operating employees, but three of the brotherhoods (Firemen and Enginemen, Railway Conductors, and Switchmen's Union) delayed their acceptance, and the President, on Dec. 27, issued an Executive Order for seizure of the railroads. When the order was issued, the President announced his wage award to the two brotherhoods (Railroad Trainmen and Locomotive Engineers) which had accepted his offer. The award added to the 4 cents under the Little Steel formula a grant of 5 cents in lieu of premium payments for overtime and the equivalent of about 2 cents in the form of a weeks' vacation with pay. The Executive Order for seizure was followed by the withdrawal of the remaining strike orders and by renewed efforts to settle the wage controversies.

GOVERNMENT SEIZURE OF COAL MINES

The agreements in the bituminous coal industry expired on March 31, and in the anthracite industry on April 30. The union accepted the wartime extension of the work-week from five to six days. It demanded payment for travel time in the mine, time to be computed from portal to portal (mine entrance) and not to be limited to time at the face or usual place of work. The basic increase demanded for inside and outside day men in bituminous coal mining was $2 per day, with comparable changes for piece-rate workers, compensation for travel time to be included in these increases. Other demands included a minimum of $8 per day, increased vacation pay, and relief from cost of tools, powder, and equipment. Similar demands were made in the anthracite industry.

The bituminous coal negotiations were deadlocked, even after a 30-day extension of the contracts, and the case was certified to the NWLB, which called a hearing for April 24. The United Mine Workers denied the authority of the Board, although the union was a party to its formation and although other unions recognized its authority. On April 30, the anthracite case was also referred to the NWLB. The union, unable to reach an agreement with the operators and unwilling to accept the Board's jurisdiction, permitted, without formally ordering, a work stoppage, on the ground that the contracts had lapsed. The Board asked the President to intervene, and on April 29 he ordered the miners to return to work by May 1. When the men failed to return, the President directed the Secretary of the Interior to take over the mines. The union's president announced a "truce" of 15 days, later extended to May 31. The NWLB in the meantime ordered the operators to discontinue negotiations until the union recognized the Board's authority.

The Board on May 25 rejected the union demands for an increase of $2 per day but approved an increase of vacation pay from $20 to $50 and directed employers to bear the cost of explosives and equipment. Travel time was to be reconsidered by the parties, who were to report to the Board within 15 days. The union rejected these terms, and another work stoppage occurred on June 1. After work was resumed on June 7, the NWLB took up the portal-to-portal pay demand, and on June 18 refused to approve the union's demand but stated that the union was free to seek an award from the Administrator of the Fair Labor Standards Act or to obtain court action. The labor members dissented, as in the decision of May 25. The Board majority went further and outlined the terms of an agreement, including a no-strike clause, which it directed the parties to accept.

The union again rejected the Board's ruling, and for the third time the miners refused to work. On June 23, the union officials issued a back-to-work order effective until Oct. 31, provided the mines were retained by the Government. The President on June 24 severely criticized the union officials for violating their no-strike pledge and for defying public authority. He asserted that the Government would not recognize the Oct. 31 deadline; and the mines were gradually returned to the owners.

ADJUSTMENT OF WAGES IN COAL MINING

After the passage of the War Labor Disputes Act on June 25, giving direct statutory authority to the NWLB, the United Mine Workers recognized the jurisdiction of the Board. An agreement between the union and the Illinois Coal Operators' Association contained a proposed settlement of the portal-to-portal pay issue, but it was rejected by the Board. A modified agreement, signed Sept. 23, contained a proposal which the Board on Oct. 28 described as a true portal-to-portal pay plan but it was stated that the method of computing pay for travel time went beyond the legal requirements of the Fair Labor Standards Act. The Board's computation resulted in a daily wage of $8.125 as compared with $8.50 in the agreement. Hours were increased to 8.5 per day, including an average of about 45 minutes of travel time.

The union refused to accept the Board's modification of the agreement, and for the fourth time an extensive work stoppage occurred. On Nov. 1, the President ordered that the mines be taken over again by the Government, and the Secretary of the Interior was directed to enter into collective bargaining contracts with the union for the period of government operation, such contracts to be in accordance with the opinion of the NWLB and subject to its approval. The Secretary of the Interior, on Nov. 3, signed an agreement which raised the basic daily wage to $8.50 as provided for in the contract which the NWLB had rejected, but this was done by reducing the customary lunch period from 30 to 15 minutes, thus giving an additional 15-minute period of productive time. The Board, on this ground, on Nov. 5 approved the agreement, subject to clarifications, particularly as to travel time for tonnage workers. Agreement between the Board and the Secretary of the Interior was reached on Nov. 20. The original union demand called for an increase of $2 per day without a change in hours except for the counting of travel time. The actual increase was mainly a result of adding one hour per day at overtime rates to productive time.

The NWLB on Oct. 28 issued a directive order for the anthracite industry, granting an increase of 32 cents per day, vacation allowances of $50 in place of $20, and payment of cost of tools, blacksmithing, etc., by the operators. The union rejected this order, but it was incorporated, with a modification granting additional pay for a deduction of 15 minutes from the lunch period, in the general agreement of Nov. 3 between the union and the Secretary of the Interior.

The Office of Price Administration authorized increases in coal prices, but the demands for additional increases was one of the major considerations in negotiations for contracts between the union and the operators. Another problem requiring clarification for the working out of agreements such as the NWLB would approve was the extent of travel time. The President, on Nov. 12, appointed a Board which was directed to obtain additional information.

WAR LABOR DISPUTES ACT

The Smith-Connally War Labor Disputes Act became a law on June 25, when it was passed by Congress over the President's veto. The action of Congress was strongly influenced by the strikes of coal miners. The law, which expires six months after the end of the war, extended the Government's authority to take over private enterprises and imposed penalties, including imprisonment, for interference with the operation of such plants by strikes, lockouts, or stoppages of production. The NWLB was given direct statutory authority in labor disputes, with power to subpoena witnesses and evidence. The law authorized a procedure for taking strike votes, including a 30-day notice and a secret ballot to be conducted by the National Labor Relations Board. The strike-vote provisions did not apply to workers in establishments taken over by the Government. The law also amended the Federal Corrupt Practices Act by forbidding unions and certain other organizations to make political contributions during the war and six months thereafter.

The President in his veto message stated that he was unalterably opposed to strikes in wartime. He stated however, that the no-strike, no-lockout pledge had been well kept except by the leaders of the United Mine Workers. Those sections which extended the authority of the Government to take over plants and which gave direct statutory authority to the National War Labor Board were approved, but the section authorizing the National Labor Relations Board to conduct strike votes was condemned as ignoring the no-strike pledge, stimulating labor unrest, and giving public sanction to strike agitations. The bill was passed immediately over the President's veto.

THE COLORADO "LABOR PEACE" ACT

A movement to restrict the activities of labor organizations was reflected in the laws of several states. In the view of the AFL, "the Colorado law is the worst of the State antilabor laws passed in 1943."

The act declared that labor disputes must not be permitted to interfere with the primary rights of third parties to earn a living and transact business, and it emphasized what it affirmed to be the rights of employees to refrain from organizing, bargaining collectively, and engaging in union activities. Numerous practices were described as unfair. These included picketing or boycotting, unless a majority in the collective bargaining unit voted by secret ballot to call a strike; mass picketing; secondary boycotts; engaging in sit-down strikes; coercion or intimidation; violating the terms of an agreement; and failing to give 30 days notice of intention to strike if agricultural products were involved, or 20 days notice in other cases. A three-fourths vote of employees in a collective bargaining unit was required for the closed shop. The check-off was restricted. The law declared that a promise to remain a member of a union was contrary to public policy, and legal redress against the violation of such a promise was denied. A major provision of the law was the requirement of compulsory incorporation of unions. The act also seriously weakened the provisions of earlier laws against "yellow dog" contracts and injunctions in labor disputes.

Authority to enforce the law was vested in the Industrial Commission. The Commission was granted the right to initiate proceedings and appoint mediators in any labor dispute. It was authorized to limit the number of pickets and the manner of picketing. It was required to examine the books and financial records of unions at least once each year. The Commission was given authority to pass upon the uses of union dues and the propriety of punishments inflicted by unions on their members.

SPREAD OF RESTRICTIVE LABOR LAWS

Bills more or less resembling the Colorado "Labor Peace" Act were passed in 10 other states. A law passed in Texas was particularly significant because it was the model for bills introduced in not less than 15 states designed to give state authorities supervision over union affairs. Many of these measures were sponsored by a group which assumed the name of Christian Americans and which was denounced by labor organizations as promoting such fascist policies as the destruction of free unionism. The Texas law provided for union regulation by licensing and registration, prohibited fees and dues which would create a fund in excess of "reasonable requirements" of unions, denied the right to charge fees for work permits, and forbade political contributions. Union organizers were required to secure identification cards from the Secretary of State before soliciting members.

Laws passed in Alabama, Florida, and Kansas, like those in Colorado and Texas, imposed various restrictions on the activities of union members and provided for the regulation of union affairs. "Anti-violence" laws were enacted in Alabama and Arkansas. Three states passed laws designed especially to restrict the activities of unions in agriculture. Idaho and South Dakota forbade union representatives from entering agricultural premises to solicit members, to collect dues, or to order or promote a strike. Minnesota passed a law forbidding the hindering of the production, transportation, processing or marketing of agricultural products, and prohibiting any combination or conspiracy designed to inflict damage on farmers by withholding labor or refusing to handle, use, or work on agricultural products. Massachusetts and Alabama as well as Texas passed laws forbidding unions to charge fees for work permits. Michigan passed a law imposing penalties for obstructing transportation—a law, like many others, opposed by labor not because of its avowed intent but rather because of its broadly phrased nature and its indirect procedure for imposing restrictions on work stoppages, picketing, and other legal activities of unions.

RELAXATIONS OF LABOR STANDARDS IN STATE LAWS

Wartime labor shortages occasioned a large number of amendments to state laws for establishing standards in such fields as child labor, hours of work, and wages. These modifications were not always limited to the period of the war.

The standards of employment of minors under 18 years of age were lowered in 25 states, and those relating to children under 16 were lowered in 19 of the 25 states. Unlike the amendments of 1942, those of 1943 were not restricted in their application to special areas of employment such as labor shortage areas. The amendments relaxed the standards as to maximum hours, night work, the basic minimum age, and the minimum age in hazardous or unsuitable occupations. In Connecticut, Indiana, North Carolina, Utah, and West Virginia acts were passed authorizing the release of children from school for agricultural work either individually or by classes or schools. Standards for pin boys in bowling alleys were lowered in several states.

Limitations on hours of work were relaxed in Arkansas, California, Connecticut, Illinois, North Carolina, Pennsylvania, and Tennessee by grants of authority to the Governor or to the Commissioner of Labor to change the hours of work during the war. Several states either suspended their laws relating to hours or passed new laws embodying lower standards. Nevada and Ohio lowered, for the period of the war, their standard of hours for women employed in various industries. Vermont and New Hampshire adopted amendments of a permanent nature. Vermont changed the 9-hour day and 50-hour week for women to allow a 10-hour day and 60-hour week for 10 consecutive weeks, and New Hampshire removed entirely the limits on the hours of women and minors engaged in the canning industries. The few instances of the raising of standards included a law in Nevada requiring one day of rest in seven and a law in Rhode Island establishing a compulsory 20-minute meal period.

In wage legislation, a measure was adopted in several states for reducing the period during which workers may bring suits for recovery of wages due them. Laws of this nature were passed in Alabama, Florida, Georgia, Iowa, Ohio, and Oregon. These laws set wage legislation apart from statutes of limitations for other types of contract claims, the usual period being six or seven years in contrast to these newly adopted limitations, ranging from six months to three years, in the laws relating to wage claims. These laws were particularly significant because they affected not only the administration of state minimum-wage, wage-collection, and wage-payment laws but also the administration of the Fair Labor Standards Act. The Administrator of the Wage and Hour and Public Contracts Divisions described these laws as indirect attacks on the Fair Labor Standards Act and as class legislation aimed at defeating the administration of the act.

STRENGTHENING OF WORKMEN'S COMPENSATION LAWS

The one field of labor laws in which, in the view of labor organizations, an important advance was made was that of workmen's compensation. Improvements were made in the laws of 39 states.

Many workers previously deprived

of the benefits of these laws were covered by amendments adopted in 1943. Massachusetts and Michigan adopted compulsory, in place of elective procedures. Groups of workers such as state employees and truck drivers were brought within the coverage of the laws in 11 states. In Vermont the coverage was extended by a provision which included all employers of eight or more (instead of 11 or more) workers. Oregon took steps to encourage the inclusion of agricultural workers by reducing the minimum fee for insurance in the state fund from $10 to $5.

Arizona and Oregon adopted for the first time arrangements for compensation for industrial diseases, bringing to 27 the total number of states with such arrangements. Nebraska, Minnesota, and Michigan extended the coverage to include all industrial diseases. Six states established second-injury funds. Benefits were liberalized in 19 states. A general plan for a rehabilitation center for injured workers was adopted in Rhode Island. Various other improvements included measures for insuring more prompt payment of compensation and for improving the procedure of administrative agencies.

COURT DECISIONS

A court decision that had much to do with the controversy over portal-to-portal pay in coal mining was the decision of the U. S. Circuit Court of Appeals of the Fifth District, March 16, 1943, in a case involving iron miners. It was held by the Court that under the Fair Labor Standards Act the work-week of underground iron-ore miners includes all time spent underground except a fixed lunch period. Time spent in going from the portal to the place of work and in going back to the portal was therefore declared to be compensable, after 40 hours, at time and one-half under the Fair Labor Standards Act.

The regulation of labor organizations and the restriction of their activities by state laws in 1943 gave rise to actions by unions to test the constitutionality of many of these laws. Most of the tests were not brought to a conclusion in 1943. A Colorado state court, in September, handed down a decision declaring that certain sections of the "Labor Peace" Act, including the section requiring unions to incorporate, were unconstitutional. The Florida Supreme Court, in November 1943, in a test case involving the Tampa Shipbuilding Company and various labor organizations, held that the closed shop is lawful and not contrary to public policy.

In two picketing cases involving a cafeteria employees' union in New York, the United States Supreme Court in November reversed decisions of the New York Court of Appeals. The right to picket, it was stated, can not be denied merely because of isolated instances of abuses falling short of violence. The Court ruled, also, that the right of workers to put their case peacefully before the public can not be restricted by a state by its limiting of picketing to an employer and those directly employed by him.

The Supreme Court refused to review a case involving the question of an employer's freedom of speech under the National Labor Relations Act. This action gave support to the limitations imposed earlier on the National Labor Relations Board in the enforcement of that section of the act which declares that it is an unfair labor practice for an employer to "interfere with, restrain, or coerce" employees in the exercise of their rights of organization and collective bargaining. The Court, however, also refused to review two decisions which had upheld the Board's decisions that anti-union notices and letters constituted an interference with the rights of employees to organize.

Opinions relating primarily to the powers of administrative agencies included the Supreme Court decisions in November which ruled that the National Railway Labor Act gives sole authority to the National Mediation Board, to the exclusion of court action, in the handling of railroad labor disputes over union representation and jurisdiction.

A decision of the Supreme Court in May held that state unemployment compensation laws applying to maritime employees are not unconstitutional. In another case the Supreme Court in April recognized the liability of a shipowner to a seaman injured during authorized shore leave for his wages, maintenance, and cure.

PROPOSED LABOR LEGISLATION

The president of the CIO in his report to the 1943 Convention stated that the current session of Congress had witnessed "the most vicious and continuous attack on labor and labor's rights in the history of the Nation." The Executive Council of the AFL, in its report to the 1943 Convention, stated that "a very large number of antilabor bills were introduced in the present Congress." The Council listed 61 bills and resolutions which it described as antilabor. Bills that were opposed by labor unions were introduced in almost all of the state legislatures.

Labor organizations not only opposed these restrictive and regulatory proposals but also supported counter measures for further protecting the rights of workers. Among these measures was a bill to outlaw oppressive labor practices. This bill was sponsored by a subcommittee (commonly called the Civil Liberties Committee) of the Senate Committee on Education and Labor. It was an outgrowth of prolonged inquiries by the Civil Liberties Committee and was designed to provide penalties for employers or their agents when found guilty of labor espionage, professional strikebreaking, antiunion vigilantism, and related practices.

Proposals for an extension of social security legislation were renewed by the President on more than one occasion, but particularly in connection with his transmission to Congress of reports by the National Resources Planning Board embracing recommendations for stabilizing the postwar economy and expanding the social security program. A comprehensive bill was introduced in both the Senate and the House on June 3 for expanding the scope of social security and for making certain important changes in the administration of the system. Notable among the changes proposed was the establishment of a national health insurance system.

The President also urged the early adoption of measures for extending educational and social security benefits to discharged service men and women. Opportunity for a training period of six to 12 months was recommended. Social security proposals included mustering out pay, special unemployment allowances, an unemployment system for the merchant marine, and the crediting of service men and women, in the old-age and survivors insurance system, with their periods of military service.

LABOR ORGANIZATIONS

The increase of employment in 1943 was accompanied by a continued growth in union membership. Estimates of the number of members in the major groups of unions by the end of 1943 as compared with the preceding year indicate that the unions affiliated with the AFL increased their membership from 5,500,000 to 6,500,000. The unions affiliated with the CIO expanded their membership from 5,000,000 to 5,250,000. Unions not affiliated with the AFL or the CIO increased their membership from 1,600,000 to 1,750,000. The aggregate membership of unions (excluding organizations having agreements with not more than one company) increased from about 12,100,000 to about 13,500,000, a growth of 1,400,000 or 12 per cent.

The NWLB retained its maintenance of membership policy, to the effect that no one should be forced to join a union but that members must remain in good standing during the life of a contract. The 15-day "escape clause," widely adopted during the year, gave members the privilege, for 15 days after the adoption of a maintenance of membership clause, of withdrawing from the union. The general policy was interpreted by the majority of the NWLB as a compensation for the no-strike pledge barring unions from self-defense by resort to strikes.

INTERUNION RELATIONS

Negotiations for reunion of the AFL and CIO were continued intermittently, but no substantial progress was made toward the solution of such basic problems as jurisdictional disputes. Representation on various public agencies, such as the President's Combined War Labor Committee, the NWLB, and the national and local labor-management committees, provided opportunities for significant cooperation.

In May 1943 the International Association of Machinists withdrew from the AFL because of the failure to adjust a long-standing jurisdictional dispute with the United Brotherhood of Carpenters and Joiners. Arrangements for the adjustment of the dispute had so far progressed at the time of the October Convention as to lead to the readmission of the Machinists into the Federation by a unanimous vote.

The United Mine Workers, which had led in the original CIO break with the AFL but had withdrawn from the CIO in 1942, applied on May 17, 1943, for reaffiliation with the AFL. A committee appointed by the Executive Council decided after an extended discussion to make a factual report to the Executive Council without recommendation. The Council in turn decided to submit this report without recommendation to the Annual Convention. The Executive Council was authorized by the Convention to continue negotiations, to make a further study of the complaints of the various unions whose jurisdiction would be affected by the readmission of the United Mine Workers, and to take final action.

LABOR'S POST-WAR PLANS

The resolutions adopted at the AFL Convention in Boston Oct. 4-14 and at the CIO Convention in Philadelphia Nov. 1-5 reflected the agreement of the two organizations on many basic issues. Their substantial accord extended to plans and proposals for the reconversion of industry to a peace basis and for controlling the post-war economy.

The two major groups and many separate unions appointed post-war planning committees. These committees emphasized the giving of aid and encouragement to component unions in dealing with specific problems at local, industry, or craft levels. Experts were engaged to study various industries for the purpose of enabling the unions to come to grips with specific problems in particular industries and areas. There was general agreement that labor organizations had the right and the responsibility of voicing labor's views in the major policy decisions of management in the conversion of industry to a peace basis. It was further agreed that labor organizations as well as management and agricultural interests should have representation in appropriate public agencies charged with responsibility for handling post-war problems.

Differences appeared as to the appropriate extent of public action as distinguished from private initiative in dealing with post-war problems, but it was agreed that public agencies should be planned and when feasible organized in advance. Government, it was asserted, must assume basic responsibility for preventing large-scale unemployment, but views differed, or were indefinite, as to the manner in which the responsibility should be exercised. It was agreed, however, that the Government should plan public works for producing essential utilities, not on a relief basis but at standard wage rates; that an adequate employment service on a national basis should be maintained; and that the social security system should be greatly strengthened and expanded.

It was widely recognized that the remarkable wartime demonstration of the nation's productive capacity has extraordinary significance for the peacetime use of labor and resources to maintain high standards of living. There was much discussion of methods and procedures but little agreement as to how to achieve this end and prevent a recurrence of depression and unemployment.

In the field of international affairs, the major labor organizations disagreed about the representation of the various groups of unions but were in substantial accord on basic international policies. There was general agreement that American unions should participate in the formulation of international policies. All of the unions emphasized the necessity of destroying fascism. They stressed the importance of restoring and preserving the rights of workers to maintain unions in Axis countries and in countries conquered by them. They strongly favored the development of a post-war international organization on a democratic basis.

CHILD LABOR

By Kate Clugston
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CHILD LABOR AND THE WAR

With the withdrawal from school of hundreds of thousands of boys and girls between 14 and 18 years, child labor difficulties have become so acute that the War Manpower Commission issued a directive last winter, in which it stated:

"It is recognized that the demands of the war period will increase the number of youth who leave school to enter employment before 18 . . . All forms of employment of such youth, including employment in agriculture, must be safeguarded . . . The achievement of these objectives requires the active cooperation of young people, their parents, government agencies and educational authorities, management and labor."

In view of the emergency, most school and labor authorities realize that intelligent modifications of the child labor laws have become permissible. If too many restrictions are placed on the employment of high school boys and girls outside of school hours, there is a risk of increasing the number who drop out permanently. All young people should, however, be warned against dead-end jobs and protected against work which is harmful to health or morals.

Statements by the Federal Children's Bureau and by the National Child Labor Committee emphasize the fact that the same restrictions should not be placed upon the employment of 16 and 17 year old youths as are enforced for children under the age of 16. The latter should be kept in school and limited very strictly both in the amount and the type of work they undertake outside of school hours. For the older group, who are legally free to leave school, the problem is one of preventing too long a work day and of keeping them out of occupations known to be particularly hazardous.

DECLINE IN SCHOOL ENROLLMENTS

In the school year 1942-43, high school enrollments had already dropped by 572,000, a sharp contrast to the steadily increasing enrollments of the previous years. Although the total figures for 1943 are not yet available all indications are that the percentage of school leaving is even more pronounced. In New York City, for example, the number of vacation and out of school employment certificates in 1942-43 was 73,267, in contrast with only 26,788 in 1941-42 and 6,813 in 1939-40, while the number of standard certificates issued for full time employment up to July 31, 1943 is 83,430 as contrasted with only 45,802 in the previous year. These figures do not tell the whole story, since they do not record the many cases of illegal employment which are becoming more and more prevalent.

Thirty-five states still permit children to drop out of school for employment at 14 or 15 years, if they have completed a specified school grade, varying from the fifth to the eighth. Many children of 14 and 15, therefore, and all boys and girls of 16 and 17 are free to leave school if the incentive is strong enough. A 14-year-old boy on his first job, as an unskilled worker, can earn $16 to $25 a week. Sixteen- and 17-year-olds, who go into war industries, can earn $40 and more. "Easy jobs" and "easy money" have taken their highest toll from our vocational high schools. In New York City alone a drop of 7,000 was reported this fall in the enrollment at such schools.

PART-TIME EMPLOYMENT

Part-time employment can be a wise solution for the desire of many high school and junior high school students to take an active part in the war and to earn good wages. Work experience has a definite place in any education program, particularly in wartime.

Most of our current part-time employment, however, is definitely harmful to school age boys and girls. State labor departments, newspaper correspondents, and others, in describing conditions throughout the country during the past twelve months, state that children who have remained in school are being overworked and exploited in practically all of the states. This is true, not only of the 16- and 17-year-old young people employed in defense plants, but equally of the 14- and 15-year-old boys and girls and even younger children who have taken their places in miscellaneous occupations such as bowling alleys, all-night restaurants, soda fountains, etc. In one Detroit school last winter 65 per cent of the older pupils were working. In Wichita, Kansas, one-third of the children under 14 had regular jobs. Boys of 12 get up at 4:30 in the morning to deliver papers before school. Other adolescents set up pins in bowling alleys until 2 or 3 A.M. One 12-year-old, a pin boy working until 1 A.M. in the bowling alley lost two fingers because, numb with sleep, he did not move fast enough to escape a bowling ball.

According to a Connecticut study made in 1942, 16- and 17-year-old students, employed on the night shift, were going directly to school with only one or two hours of sleep. Of 17,295 enrollees in the junior and senior high schools of four cities, 4,748 students were employed, a great many of them under 16 years of age. In three cities, out of 3,969 students employed, 627 were working until 10 P.M. or later and 306 until midnight or later. In two cities, of 2,907 students employed, 788 were working from 30 to 40 hours a week and 212 for 40 hours or more, in addition to attending school. In other words, these children and young people were working far beyond their endurance, carrying what amounted to a full-time job in addition to their school program.

JUVENILE DELINQUENCY

Many of the children thus employed did not need to work. Their parents were making better money than they ever had in their lives. Authorities, both in England and this country, have attributed the war-time increase of juvenile delinquency to parental employment and to the greater number of "latch-key" children. There is increasing evidence that the increased employment of young workers is also a contributing factor.

In the winter of 1942-43 a distraught father appealed to the Connecticut State Labor Department when his 14-year-old daughter, working as an usherette in a downtown theatre, declared her financial independence and insisted on remaining out with undesirable companions after the theatre closed.

Since plants turning out defense goods can not, under the Wage Hour Act, employ workers who are less than 16 years old, boys and girls of 14 and 15 or even younger, drift into jobs in quick lunch spots, movies, honky tonks, bowling alleys, laundries, bakeries, dry cleaning establishments, stores, garages and soda fountains, where they are particularly exposed to unscrupulous influences. Many of them are unstable in their employment, saving a certain amount of money and then taking a vacation. Some of them shift about from place to place at will. Abnormally high wages make them resentful of authority, particularly those in the 16- and 17-year-old group. One such boy on his first job earned $70 in his first week.

According to J. Edgar Hoover, juvenile delinquency has increased at least 20 per cent throughout the nation and is mounting so rapidly that "unless something is done we can expect another era of lawlessness such as swept the country after the last War."

WAR-TIME EMPLOYMENT OF CHILDREN IN AGRICULTURE

The old and as yet unsolved problem of children in agriculture is made even more acute by the war. This is indicated by a report from the Alabama State Labor Department, which states: "Though the usefulness of children on the farm is accepted to the extent that many schools are operating on shortened schedules or with revised vacation periods to allow the pupils to help in planting crops, the present extent of child labor presents serious potential problems . . . It is a quite common sight to see children as young as 7 or 8 dropping corn or following a plow . . . Farm boys and girls are filling the jobs of men who have left for military service and war industry."

According to estimates made by the Federal Children's Bureau, more than 4,000,000 children were legally at work in the summer of 1943. Just before Labor Day the U. S. Office of Education, the Children's Bureau, and the National Child Labor Committee, as well as many schools and municipalities throughout the country, issued statements in which they urged boys and girls who had been working on vacation permits to give up their full-time jobs and return to school. As early as June, however, a startlingly large number of students had already expressed uncertainty as to whether they would ever return to the classroom. This was true not only of the older boys and girls but for 14- and 15-year-old children as well.

Many agencies, public, private, state and Federal, cooperated in setting up summer agricultural projects in 1943. Important among these were the Victory Farm Volunteers, developed by the U. S. Office of Education and the New York Farm Cadet corps. Although the minimum age generally set was 14, farmers on the whole preferred older boys and girls. There was grumbling about student help, but many farmers admitted that the young people helped to save valuable crops.

After their 1942 experience with young volunteers, the farmers have more and more become interested in a program for training boys and girls who offer their services for such work in agriculture. In 1943 New York State included in its budget an appropriation for youth engaging in summer farm work. The money so appropriated is being expended with particular emphasis upon transportation, selection, and supervision. New York's Young-Milmoe Act and New Jersey's Hendrickson Act, which release pupils for 30 days and 15 days respectively during the school year, were renewed. Such releases are for the purpose of permitting young people to aid in the harvesting of important, perishable crops.

SCHOOL WORK PROJECTS

In one New Jersey high school in the fall of 1943, 660 out of 700 students petitioned that the school day end at 1:30 instead of 3:15 in order that there might be more time for them to hunt for afternoon and evening employment. In 1942 only a few high schools adopted a really practical solution of the educational-work cooperative problem during the academic year. Now, however, many war plants and civilian industries all over the country have begun to cooperate with the local schools in setting up work and study programs.

Lockheed Aircraft Corporation of California should be mentioned as one of the pioneers in this movement. In 1942 it sponsored programs whereby several hundred boys of 16 and 17 years either alternately attended school four hours a day and worked four hours or worked and attended school in four-week periods. In order to remain at work the boys had to pass a rigid physical examination and to keep up their academic work.

HEALTH AND ACCIDENT HAZARDS

From all parts of the country labor leaders and educators have reported exploitation of students under working conditions which jeopardized their health and which more than once resulted in serious accidents.

The April 1943 issue of the *Statistical Bulletin*, published by the Metropolitan Life Insurance Company, states that the death rate from tuberculosis is increasing among white males from 15 to 19 years. Also there has been an increase in the death rate from accidents for the same group. Mentioned specifically are industrial accidents. Clearly this is in part due to the fact that so many more boys are now employed in hazardous occupations.

In a recent pamphlet, the Children's Bureau points out that boys and girls in their middle teens are particularly susceptible to fatigue and are probably more susceptible than adults to industrial poisons. They are also more likely to take risks and have less judgment under pressure of work. Children of the same age vary greatly in their physical capacity. It is extremely important, therefore, that young people be given physical examinations before they are employed, to determine whether the proposed jobs are suited to their physical capacity.

STATE LEGISLATION

The legislatures of 44 states met in 1943 and were deluged with bills relaxing or suspending the child labor laws for the duration. Only a few good bills were proposed. Notable among those which went down to defeat were general revisions of the Michigan and Texas child labor laws. The new Florida child labor law, passed at the previous session, was considerably weakened. A New Jersey law, which passed, however, insures that education shall be free to non-resident children of school age, if they or their parents are engaged in farm labor within the state.

The great majority of the bills proposed sought to modify child labor laws during the war or to grant authority to a state officer or agency to do so. This trend has been evident since before Pearl Harbor, but most of the earlier bills of that nature had failed. Some of the proposals represented an intelligent effort to meet the growing manpower shortage, with due regard for the needs of young people; others were concealed or overt efforts to break down safeguards, frequently for industries which had no connection with the war.

Broad powers were granted to the governors of California and Massachusetts, who may now permit children to work under any conditions they specify. In several other states sweeping emergency powers, including suspension of labor laws, may be exercised by the executive when the legislature is not in session.

In all, since Pearl Harbor, three-fourths of the states have considered modifications and 27 have either made changes or granted authority to modify laws.

Regulations restricting hours of night work for minors of 16 and 17 years have been most often modified. Such action has been taken in 23 states, for the most part those whose laws set higher than average standards or were more inclusive in the occupations covered. Of the 11 states which had an 8-hour day for minors of 16 and 17 years, seven have authorized modifications. Of the 15 states, which had a 48 hour week or less for minors of that age, 10 have authorized modifications; and of the eight states which prohibited work for minors after 10 P.M. or earlier, five have authorized changes. Relaxations in states where such provisions formerly applied only to female minors have been less frequent. In no case does a statutory extension of maximum hours affect children under 16 years, and in only two cases does the night work relaxation apply to such minors . . . although in some states the authority to grant exemptions covers younger children.

Laws regulating the employment of children in bowling alleys have been relaxed in nine states. Before the war, five states had a minimum age of 18 years for pin setters; in one the age has been lowered to 16 years; in two to 15 years and in two to 14 years. Of the 21 states which had a 16-year minimum, three have reduced it to 14 years and one to 12. In most of these states work is now permitted until 11 P.M. or midnight, with results which have already been mentioned.

Another occupation for which the minimum age has been lowered in some states is messenger work for girls, where the age limit has been reduced from 18 to 16 years to 16 or 14. Other occupations included work in restaurants, drug stores, hotels, theatres, and the various occupations which offer the greatest delinquency hazards.

In nine states provisions barring hazardous employment have been modified. Three have lowered the age at which a minor may operate certain types of motor vehicles. Others stipulate the amount of weight they may lift, and employment in such occupations as welding, the operation of elevators, etc.

Eleven states have passed laws permitting rearrangement or shortening of the school term, changes in the length of the daily session or release from school for temporary periods, usually for stipulated work in harvesting of the nation's crops.

Nearly all of these changes are limited to the period of the war and for six months thereafter.

CHILDREN'S BUREAU RULINGS

No new Federal legislation dealing with child labor was enacted in 1943. Late in December, 1942, the U. S. Department of Labor lowered from 18 to 16 the minimum age for the employment of girls under the Walsh-Healy Act (establishing standards for firms working in government contracts), but included regulations as to hours, night work, and rest periods. The Children's Bureau has likewise made temporary concessions in some of its rulings under the Fair Labor Standards Act. It has sanctioned the employment of 16- and 17-year-old boys in certain occupations in the lumber and wood-working machine industries, and has relaxed standards to permit 14- and 15-year-old children to work, under certain conditions, in the cutting sheds of the dried fruit industry and in fresh fruit and vegetable packing sheds.

VIOLATIONS OF THE WAGE-HOUR ACT

In the year ended June 30, 1942, there was a marked rise in the number of violations of the child labor provisions of the Fair Labor Standards Act. A total of 4,083 minors were found employed in 1,294 establishments in violation of the act, compared with 1,761 minors in 579 establishments the previous year. The number of legal cases brought to successful conclusion was larger than the total number closed by legal action during the entire previous period of operation of the act.

PUBLICATIONS

Most important of the publications issued by the National Child Labor Committee in 1943 were: *Cotton or School,* by Kate Clugston (based on a field study by Charles E. Gibbons); *Food* (The Little Farmer, the War, and the Future) by Courtenay Dinwiddie; *Child Manpower—1943* by Gertrude Folks Zimand; *The Kind and Quality of Work Experience* (Reprinted from the *Bulletin* of the National Association of Secondary School Principals) by Courtenay Dinwiddie.

Publications of the Children's Bureau during the fiscal year include: *Wartime Employment of Boys and Girls Under 18; Protecting the Health* *of Young Workers in Wartime; Community Action for Children in Wartime; Guides to Successful Employment of Non-farm Youth in Wartime Agriculture* (For use in Victory Farm Volunteer Program); *Which Jobs for Young Workers?* (A series of leaflets giving advisory standards for the employment of minors in specific industries); *Back to School* (suggestions for a fall campaign to reduce child labor); *Programs for the Employment of Youth in Wartime Agriculture—1942* (state and local planning during 1942 for the agricultural employment of Non-farm Youth—A Report of Experience in Four States); *A Statement of Policies and Standards Governing the Non-agricultural Employment of In-school Urban Youth Under 18 Years of Age; Wartime Employment of Children in Bowling Alleys; Part-time Work of Students in Defense Areas; School Youth and Their Jobs; Farm Accident and Insurance Problems of Young Workers; When Children Leave School for Work at Fourteen or Fifteen.*

Other Publications are: *A Statement of Policy on Employment of Youth Under 18 Years of Age,* War Manpower Commission; and *Victory Farm Volunteers,* U. S. Office of Education.

PERIODICAL PUBLICATIONS

American Child, The
419 Fourth Ave., New York City.
American Federation of Labor Weekly News Service
9th and Massachusetts Ave., N.W., Washington, D. C.
American Federationist, The
9th and Massachusetts Ave., N.W., Washington, D. C.
American Labor Legislation Review
131 E. 23d Street, New York City.
Child, The
Children's Bureau, Department of Labor, Washington, D. C.
C.I.O. News (National Edition)
1106 Connecticut Ave., N.W., Washington, D. C.
Conference Board Management Record, The
247 Park Ave., New York City.
Economic Outlook (C.I.O.)
718 Jackson Place, N.W., Washington, D. C.
Farm Labor
Bureau of Agricultural Economics, Department of Agriculture, Washington, D. C.
Federal Employee, The (N.F.F.E.)
10 Independence Ave., S.W., Washington, D. C.
International Labour Review
International Labour Office, Montreal, Canada
Labor (railroad unions)
10 Independence Ave., S.W., Washington, D. C.
Labor Information Bulletin
Department of Labor, Washington, D. C.
Labor Market
War Manpower Commission, Washington, D. C.
Labor Notes
80 E. 11th Street, New York City.
Labor Relations Reporter
2201 M Street, N.W., Washington, D. C.
Labor Review
Bureau of Labor Statistics, Department of Labor, Washington, D. C.
Labor's Monthly Survey (A.F.L.)
9th and Massachusetts Ave., N.W., Washington, D. C.
Social Security Bulletin
Social Security Board, Federal Security Agency, Washington, D. C.
Survey Graphic, The
112 E. 19th Street, New York City.
Union News Service (C.I.O.)
718 Jackson Place, N.W., Washington, D. C.
United Mine Workers Journal
900 Fifteenth St., N.W., Washington, D. C.
Victory Bulletin
American Council on Public Affairs, Washington, D. C.

Wage and Hour Reporter
2201 M Street, N.W., Washington, D. C.

Wage Statistics of Class I Steam Railways in the United States
Interstate Commerce Commission, Washington, D. C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSOCIATION FOR LABOR LEGISLATION, 131 E. 23d Street, New York City.

AMERICAN FEDERATION OF LABOR, American Federation of Labor Bldg., 9th and Massachusetts Ave., N.W., Washington, D. C.

CONGRESS OF INDUSTRIAL ORGANIZATIONS, 718 Jackson Pl., N.W., Washington, D. C.

INTERNATIONAL LABOR OFFICE, 3480 University Street, Montreal, Canada.

LABOR RESEARCH ASSOCIATION, 80 E. Eleventh Street, New York City.

LEAGUE FOR INDUSTRIAL DEMOCRACY, 112 E. 19th Street, New York City.

NATIONAL CHILD LABOR COMMITTEE, 419 Fourth Ave., New York City.

NATIONAL FEDERATION OF FEDERAL EMPLOYEES, 10 Independence Ave., S.W., Washington, D. C.

RAILWAY LABOR EXECUTIVES ASSOCIATION, 10 Independence Ave., S.W., Washington, D. C.

UNITED MINE WORKERS OF AMERICA, United Mine Workers Bldg., 15th & I St., N.W., Washington, D. C.

DIVISION XVII

RELIGION AND RELIGIOUS ORGANIZATIONS

PROTESTANT DENOMINATIONAL ACTIVITIES

By Winfred Ernest Garrison

Literary Editor, *The Christian Century*

GENERAL

Religion gets so far out of denominational boundaries in such a year as 1943 that it seems an arbitrary, if not an impossible, distinction to segregate the activities of the denominations as such. There have been such activities, and very significant ones, but for the most part they have been directed toward other than denominational ends. A state of war has provided the churches with new duties and led them into the performance of services of such immediate value that even the nonchurch public could appreciate them, while the strictly religious ministries of the churches have gained fresh interest for those not ordinarily concerned about them. The prestige of religion and of the churches has noticeably increased. The quickened demand for Bibles is both a symbol of this and a fact of importance in itself. The Bible publishers have been busier than ever before. The paper shortage, complicated by larger orders both for the armed forces and for civilians, made necessary, in some cases, distribution of the Scriptures on a quota basis. The recurrent publication of the familiar type of story about the soldier whose life was saved by the impenetrability of a Bible in his pocket, and the advertising of New Testaments with "bullet-proof covers," may be considered as merely marginal phenomena surrounding the central fact that, in times such as these, a great many people who are not habitual readers of the Bible begin to suspect that it may contain something they need.

INCREASED RECOGNITION OF RELIGION

The cordiality, not to say credulity, with which accounts of religious experiences in foxholes, on rafts, and in crippled planes have been received testifies to a popular willingness to believe that God is helpful as a last resort, but this also touches only the fringe of the subject. The cordial and almost universal esteem for the chaplains in the armed forces is partly a tribute to the heroic and unselfish service they are rendering and partly an expression of a feeling, often inarticulate or awkwardly expressed, that the chaplain represents something very close to the heart of the whole enterprise. "Praise the Lord and Pass the Ammunition" deserves to be recorded as one of the songs of the year; it mirrors at once a general sentiment about religion and an inability to phrase it in adequate terms, but there is a continuing urge to state it. It was no unique event when three out of four lay speakers at an assembly of new inductees into the service urged the men to practice their religion, trust in God, pray, and consider the chaplain their most reliable friend in any emergency.

Statesmen find it difficult to define the nation's cause and to appeal for complete commitment to it without having recourse to a religious interpretation and motivation, and this is increasingly true as attention is directed in larger measure to the post-war situation. President Roosevelt and Prime Minister Churchill have constantly introduced the religious note into their most urgent messages. Sumner Welles, until recently Undersecretary of State, speaking on Oct. 28 at the launching of the "mission on the peace" sponsored by the Federal Council of Churches, said: "Unless the moral force of religious conviction impels, the goal of true and lasting international cooperation can not be attained." Madame Chiang Kai-shek, reversing the normal course of missions, brought a Christian message as well as an appeal for China. *Fortune* magazine published in its March issue a remarkable article surveying the work of the churches, listing the debits and credits in civilization's account with them, and declaring that "the religious minds of the Western commonwealths" are in a position "to exert more influence in the 'secular order' of the world than they have had for at least a century."

RELIGIOUS SIGNIFICANCE OF THE WAR

Though the churches contained a large element of pacifism and were largely anti-interventionist before Pearl Harbor, they have not permitted their continued horror of war to prevent a realistic attitude toward its issues and duties. The Roman Catholic bishops issued a manifesto on "Victory and Peace" in November 1942. A month later the Federal Council of Churches of Christ in America adopted a statement of "The Issues at Stake in the War" of such patriotic vigor that one commentator, with some exaggeration, could headline it, "The Federal Council Declares War!" The Methodist bishops, in the same month, voted: "We pledge ourselves to the destruction of this brutal and unwarranted aggression . . ." Going beyond a mere declaration of loyalty, the Federal Council appointed a commission of 24 eminent theologians, headed by Prof. R. L. Calhoun of Yale, to prepare a statement on "The Relation of the Church to the War in the Light of Christian Faith."

The Government has considered it worth while to provide either transportation or travel priorities to permit several emissaries of the churches to make overseas visits by plane, to inspect and direct the work of the chaplains, to maintain contacts with British and European churches, or to promote other religious interests. Archbishop Spellman flew to England, Spain, North Africa, Italy, and other points. Bishop Adna W. Leonard, chairman of the general committee on chaplains, was killed in the crash of his plane. Rev. William B. Pugh succeeded him and carried out the assignment. Rev. Theodore C. Hume met death when the Swedish passenger plane on which he rode was shot down as he was proceeding to Sweden to act with the northern European office of the World Council of Churches in that country until he could reach the headquarters in Geneva.

In their activities and pronouncements at home and in the sending of their representatives abroad, the churches have avoided commitment to the concept of a "holy war." Outside of the three historically pacifist churches, the number of avowed pacifists on religious grounds has apparently greatly diminished. Conscientious objectors have, however, continued to be an object of concern because of the issues of civil and religious liberty involved in their treatment. In June it was reported that 1,500 were in prison camps after many had been paroled. The number was somewhat greater at the end of the year. About 6,000 were in Civilian Public Service camps. Five hundred were in prison for refusing to go to C.P.S. camps. Many have been assigned to detached work, often their own previous jobs. The cost of these camps and the responsibility for administering them have been borne chiefly by the Friends, Brethren, and Mennonites. These rather reluctantly renewed their contract with the Selective Service System for 1944, and only on the stipulation that there should be less military interference with their administration. To Oct. 1, the cost of maintaining the C.P.S. camps had been about $2,500,000. Churches other than the three mentioned have met only about half the cost of supporting their own men who are in the camps. It is conceded that the system is not working well. It is also probably true of the vast majority of Protestants that, while they have a general interest in the preservation of religious liberty and the rights of conscience, their interest in the cause of the conscientious objector is tepid and their attitude toward his pacifism is distinctly cold.

LOOKING AHEAD TO PEACE

If the churches are cool toward war-resisters, they are warm in their zeal for a real peace after victory. It is fair to say that religious opinion has played a considerable part in bringing into its present prominence the discussion of the principles which must govern the reconstruction of the world when the war has been ended. A year ago the dominant secular note was "One thing at a time—win the war first." Even the Atlantic Charter did not counterbalance this emphasis, but the churches began to think about the principles of peace as soon as they were confronted by the fact of war. It can not be so confidently claimed that religious opinion has been as influential in determining what the secular mind should think about the peace as in stirring it to think something about it.

The manifesto of the Delaware (Ohio) Conference on the conditions of a just and durable peace is still a potent instrument after nearly two years. In March 1943 a commission of the Federal Council put forth its "Six Pillars of Peace," the proposals of which were somewhat less concrete than those of Delaware and, perhaps for that reason, have been more frequently brought to public attention by official leaders in the churches. In the same month the Methodists held a "second Delaware" conference at which Vice-President Wallace made an important statement. In July, an International Round Table of Christian Leaders, with 60 representatives from 14 countries (some flown from the antipodes in government planes), met at Princeton and issued findings which went beyond the Six Pillars and reinforced the Delaware declaration. In November a nation-wide Mission on Peace, sponsored by the Federal Council's commission, sent ten teams to give lectures and conduct conferences in 102 cities. A Methodist "bishops' crusade," to present the principles of a Christian peace and world reorganization, planned to cover a great part of the country in January 1944. Meanwhile, every denominational convention or assembly held during 1943 adopted resolutions on the peace.

One of the most notable of all the pronouncements in this series was the "Declaration on World Peace" issued over the signatures of an impressive list of American Roman Catholic bishops and other prominent clergy and laymen, Protestant clergymen, and Jewish rabbis. This was no less remarkable for the united sponsorship under which it appeared than for the socially liberal and fundamentally religious character of its contents. While the National Conference of Christians and Jews, headed by Dr. Everett M. Clinchy, did not appear in this matter, it is evident that the patient mediating work of the N.C.C.J. during the past ten years made possible, and its initiative made actual, the joint issuance of such a statement.

HOW THE WAR AFFECTS THE CHURCHES

Churches have had less trouble with problems of finance and more with problems of personnel than in normal times. Because of a more lively appreciation of what the churches stand for and do, there has been the disposition to support them more generously. Because of their extended wartime services, they have needed additional income, and because money is relatively plentiful, in spite of taxes and war bond purchases, they have been able to get it. Budgets are balanced where there have long been deficits, church debts are reduced or paid off, and in many cases reserves are set up against future improvements. Funds for missions and benevolence show a similar increase. Church-related colleges have not been so fortunate. All have lost income by the lowered rate of return on endowment and reduced tuition receipts from smaller student bodies. The immediate financial condition of some has been eased by government contracts for the training of Army and Navy units, but at what cost in diversion from their educational aims remains to be determined. The duration of "education by contract" may last longer than the war.

With the chaplaincy taking many of the new seminary graduates and the younger ministry, it has not been easy to keep the churches adequately staffed. More disturbing is the problem of the future ministry. The lowering of the draft age to 18, an age below that at which candidates for the Protestant ministry usually make their decision, cuts off the supply at its source. The 17,000 candidates for the priesthood in Roman Catholic seminaries were recruited at an earlier age. Their Protestant contemporaries and parallels are in high school or college and have not yet made their commitment to the ministry. The Navy's V-12 program of training for "specialized services," including the chaplaincy, provides only for training naval chaplains, and the number involved is only a small fraction of those who should be preparing for the ministry if a serious age-gap in the leadership of the churches is to be avoided.

Not wholly a wartime phenomenon, but probably accentuated by war conditions, is the rapid growth of churches of the more emotional type which, as viewed from the standpoint of the "old line" denominations, stand on the margin or beyond the borders of ecclesiastical respectability. These churches, as a class, have had a rate of growth very much higher than the average rate for all churches.

ADVANCES TOWARD UNITY

Many projects directed toward the merging of related or congenial denominations are in process. The Protestant Episcopal Church and the Presbyterian Church in the U.S.A. have voted to continue negotiations looking toward organic union, though the obstacles on both sides are very great. The largest two Presbyterian churches (U.S.A. and U.S. or, incorrectly but popularly, "North" and "South") have a joint commission which has formulated basic principles of union. A joint committee representing the Evangelical and Reformed Church and the Congregational-Christian Churches prepared a proposed Basis of Union which was discussed at synod and state meetings of both denominations. The Evangelical Church and the United Brethren have received from their joint commission a completed "Basis of Union." The Negro Methodist churches have under discussion a plan of union among themselves. The United Lutheran and American Lutheran Churches have declared their "pulpit and altar fellowship." Episcopalians and Methodists have initiated formal "conversations" with reference to possible union. A joint commission of Northern Baptists and Disciples of Christ is considering a rapprochement.

An earnest proposal of "federal union [of all churches] now," set forth by Dr. E. Stanley Jones, evoked more discussion than assent. Many of those most active in promoting denominational mergers and ecumenical movements found this plan unacceptable.

A bold experiment in cooperative theological education was the formation of the new "federated theological faculty" at the University of Chicago by merging the faculties of four adjacent divinity schools, while the institutions themselves retain their autonomy and their special relations with the denominations which they respectively serve—Baptist, Congregational, Disciples of Christ, and Unitarian.

Withholding the Victory tax

aroused some protest from those who, without objecting to the tax itself, took alarm at the plan of making the church a "collecting agency" for the Government, but to most churchmen this objection seemed captious. The protest diminished as the Government's increased reliance upon this method of collection for the income tax became apparent.

ACTIVITIES AND STATISTICS

Both denominational and cooperative work in communities adjacent to army camps and in the new industrial communities of war workers has continued and developed. Most local congregations have made special efforts to keep in touch with their young men and women in the armed services. The study and practice of week-day religious education has received much attention. The teaching of religion in time released by the public schools is now legal in 41 states and is practiced, in some form, in nearly as many. At Chicago in May a National Association of Evangelicals was organized by conservatives to whom the Federal Council of Churches is odious, though most of them belong to denominations which are members of it. Steps have been taken toward even closer post-war cooperation in foreign missions than that now provided through the Foreign Missions Conference. Eleven boards have agreed to re-enter Japan with a united front. Foreign missions have continued actively, though hampered by forced evacuation of foreigners from some areas (*e.g.* Japan), soaring prices in others (*e.g.* China), and political tensions (*e.g.* India). The campaign to get Protestant missionaries evicted from Latin American countries an effort supported by the Catholic bishops' "Victory and Peace" manifesto and by a book by John W. White and articles by John Erskine, has produced acrimony but no action.

The latest general compilation of religious statistics, as of Dec. 31, 1942, shows 67,327,719 members of 256 bodies. Ninety-seven per cent of the total membership is in 52 bodies having more than 50,000 members. More than 20 of these 52, including some of the largest, are closely related in four denominational families—Baptist, Lutheran, Methodist, and Presbyterian. Roman Catholics are the most numerous group, with 22,945,247 baptized members. Following in order of size are Methodists, Southern Baptists, Jewish Congregations, National (Negro) Baptists, Episcopalians, Presbyterians U.S.A., United Lutherans. In Canada, according to the 1941 census (published 1943), there are 4,986,552 Roman Catholics (43 per cent of the total population), 2,204,875 members of the United Church of Canada, 1,751,188 Anglicans, 829,147 Presbyterians, 483,592 Baptists.

SEVENTH DAY ADVENTISTS

The General Conference was organized in 1863, at which time there were about 3,500 members. Very complete statistical reports are published quarterly for the United States and Canada, annually for the world. As of Sept. 30, 1943, membership in the United States was 191,429; Canada and Bermuda, 9,786 (a gain of 4,000 in North America for nine months, following a gain of 5,882 for the preceding year). World membership at the end of 1942 was 535,134 (a gain of 14,490 for the year). Distinctive features are the wide distribution of membership, almost two-thirds being outside of North America, and the high per capita rate and totals of offerings. "Tithes and offerings" produced $20,109,148 in 1942, three-fourths of which was given by the one-third of the members who are in North America. The giving was at the rate of $77.14 per capita in North America, $14.49 elsewhere, $37.57 in the world-wide membership. Tithes alone for the single year 1942 amounted to more than the estimated value of all the denomination's 4,741 church buildings. The investment in sanitariums, schools, and publishing houses is much greater. Work is carried on by 28,879 evangelistic and institutional workers in 413 countries and island groups, by the use of 810 printed or oral languages.

NORTHERN BAPTIST CONVENTION

At the end of the convention year, April 30, 1943, there were 7,367 churches with 1,556,112 members, and 7,168 Sunday schools with 992,381 pupils. Local church expenses for the year were $17,198,480, and the expenditure for missions and benevolences was $4,451,057. Church property is valued at $192,391,252, against which there are debts of $7,362,900. During the year, membership had increased by 12,180, operating expenses by $400,783, gifts for missions and benevolences by $760,000, and the value of property by $5,550,000. The number of churches was reduced by 48 and the Sunday school enrollment by about 40,000, chiefly by the withdrawal of churches from the convention on account of theological differences.

Important events, as reported by the recording secretary of the convention, were: "Commissioning of eight lay workers as missionaries by the General Council of the Convention; approval of several hundred ministers as chaplains for the army and navy; steps toward the establishment of an Association of Baptist Historical Libraries; steps toward closer relations between the Northern Baptist Convention and the Disciples of Christ; establishment of "World Parish Days" in many cities and suburban communities to project the work of the denomination, in lieu of the sessions of the convention omitted in 1943 on account of war emergency conditions; second year hold-over presidency of President Robbins, the first two-year presidency in many years, owing to omission of the annual meeting of the Convention, in which two years the president has traveled nearly 50,000 miles, making several hundred addresses to stimulate the constituency; the great success of the "World Emergency Forward Movement." This Movement has departments of World Emergency, Church Extension, and Post-war Needs. The sum of $602,897 was raised in 1941, $728,686 in 1942, and $1,500.000 was asked and expected in 1943 for such world emergency objectives as aid to service men, alleviation of distress, service to shifting populations, restoration of missions in Asia, ministry to Japanese evacuees in U. S., and post-war planning.

SOUTHERN BAPTIST CONVENTION

Statistics for 1942 (released in 1943) show 5,367,129 members in 25,737 congregations organized in 918 associations and reporting to 19 state conventions. Gifts for local work were $42,565,890 (gain $5,530,623); for missions, $9,681,772 (gain $1,859,432). Value of church property is $240,131,184 (up $7,186,869). There are 21,986 ordained ministers (down 761). The session of the Convention scheduled to meet at Memphis, Tenn. in May 1943 was cancelled at the Government's request. The agencies published their reports and carried on their work, and the officers were continued: Pat M. Neff, president; Revs. J. Dean Crain and Robert E. Guy, vice-presidents; Rev. Hight C. Moore and J. Henry Burnett, recording secretaries; Rev. Austin Crouch, executive secretary; and Rev. J. E. Dillard, secretary of Promotion. Rev. E. P. Alldredge is secretary of Survey, Statistics, and Information.

FREE WILL AND OTHER BAPTIST BODIES

Reports presented at the Free Will Baptist national convention, which met at Nashville, Tenn., July 11-16, 1943, showed churches in 12 southern or border states and in Ohio and Michigan, with 57,348 members, not including Georgia and Texas which made no report, of whom 20,000 are in Oklahoma. New constitutions were adopted for the boards of foreign missions, publication, and superannuation. A Bible college is conducted at Nashville. Missionary work is done in Cuba. A unified Program Fund is promoted, receipts of which are divided: 10 per cent to the superannuation fund, 20 per cent to home missions, 30 per cent to foreign missions, 40 per cent to education. A paper, the *Free Will Baptist,* is published at Auden, N. C. National conventions, held annually, represent the national association, the woman's auxiliary, and the Sunday schools. The next will meet at Flat River, Mo., July 9-14, 1944.

Next in size to the Southern Baptist Convention is the National Baptist Convention (Negro), the churches of which had 3,911,612 members at the beginning of 1943. It maintains the American Baptist Seminary at Nashville, Tenn. Fifteen other Baptist groups have an aggregate membership of about 750,000. The latest available totals give the Baptist bodies a combined membership of 11,593,378, making them the largest Protestant denominational family in America.

CHRISTIAN SCIENCE

The Camp Welfare Activities of the Mother Church in Boston supervised the work of 143 Christian Science wartime ministers paid by the church and over 300 volunteer workers, who ministered to the spiritual needs of Christian Scientists and others in the armed forces in the United States, Canada, Great Britain, Northern Ireland, Australia, New Zealand, and the Middle East. These civilian workers, with the approval and assistance of army and navy chaplains and officers, respond to calls for Christian Science help or healing, conduct Sunday and midweek services, and make Christian Science literature available where it is desired. Rooms with facilities for rest, study, and writing are provided. There were 17 Christian Science chaplains in the Army and one in the Navy in 1943.

During the first ten months of the year the War Relief Committee of the Mother Church shipped 256,887 pounds of clothing to England and 177,689 pounds to Russia, valued at $434,576, for free distribution. In addition, donations of clothing were sent to refugees of many nationalities in the United States, Canada, England, and Russia, to Greeks in Egypt, and to the people of Malta. The committee distributed to men in the U. S. armed forces 144,908 knitted garments, the yarn in which is valued at $127,342.

All churches maintain reading rooms open to the public for study and meditation and are increasingly used. In the *Christian Science Journal,* the official organ, a large list of churches, societies, and practitioners appears. On Sept. 20 the editorial staff and foreign correspondents of the *Christian Science Monitor* (which has long been outstanding in the field of daily journalism), in cooperation with the Mutual Broadcasting System, inaugurated a new type of foreign news program over a coast-to-coast network.

During 1943 the *Christian Science Monitor* received three awards: the F. Wayland Ayer Cup for excellence of typography, makeup, and presswork, in the thirteenth annual exhibition of newspaper typography conducted by N. W. Ayer & Son and in competition with more than 1,000 daily newspapers; a medal and citation awarded by the University of Missouri School of Journalism "for fulfillment of the difficult assignment given to it by its founder, Mary Baker Eddy, 'to injure no man but to bless all mankind'"; and a citation by the Treasury Department for effective assistance in promoting the second war loan drive. On Dec. 9, 1942 the Maria Moors Cabot Prize was awarded by the Columbia University Graduate School of Journalism to the *Christian Science Monitor* for its record in promoting understanding among the 21 American republics. This was the first award of this recognition to a United States newspaper.

CONGREGATIONAL CHRISTIAN CHURCHES

The latest reports, for the 1942 fiscal year, show 5,921 churches (a loss of 25 for the year) with 1,077,346 members (63,445 new members received, net gain 10,657); 5,894 ordained ministers, of whom 3,126 are in the active pastorate; 583,876 Sunday school pupils (loss 44,758). Local church maintenance, excluding investment in new buildings, cost $15,316,072 (up $238,169); missions and benevolences, $2,557,485 (up $328,603). Church property is valued at $166,832,199 (down $48,676). About half of the churches (2,856) reported about one-fourth of the total membership (249,833) attending "principal Sunday service," or an average of 87 members at each. The average salary of full-time ministers is $1,884.

A Service Committee was created in June 1943 to direct activities in relief and rehabilitation in the post-war period. It will follow the pattern of the American Friends Service Committee, will supply funds and personnel for relief work abroad in cooperation with the Committee for War Victims and Services, and is now doing work in England and preparing to aid Greek refugees in Egypt. In December 1943, the executive committee of the General Council created a commission to study the problem of the church's program for demobilized servicemen.

Funds for all war emergency work are channeled through the Committee for War Victims and Services, which received $322,108 in the 12 months ended Nov. 1, 1943. Most of this came from the 800 churches which have adopted the Sacrificial Savings Plan, under which members agree to save (and give) at least 25 cents a week by giving up some small luxury. The agencies through which these funds are applied are: the four denominational boards, all of which are doing such emergency work as food and clothing distribution, services to chaplains, assistance to Japanese American evacuees; the eight agencies sponsored by the Federal Council's committee on overseas relief; and Russian War Relief, Inc. and the Greek War Relief Association.

DISCIPLES OF CHRIST

In the United States and Canada, as of June 30, 1943, there are 8,050 churches (gain of 48) with 1,679,012 members (gain 14,069). Additions during the year were 46,760 by baptism, 43,827 otherwise. The number of ministers is 7,801 (gain 108). Chaplains with the armed forces increased from 203 in 1942 to 339 in 1943. The world membership is 1,842,123 (a gain of 15,689, or nearly double the loss of 1942). There are 13,030 members in Great Britain, 30,605 in Australia, and 4,222 in New Zealand, all of which show slight losses. Receipts for local church maintenance in the United States and Canada were $15,109,797 (gain $1,629,423). Gifts for missions and benevolences are reported as $5,505,779, a gain of $947,024 (or 20.77 per cent) over 1942. Collection of the Emergency Million, subscribed in 1942, was completed in 1943, liquidating the debt of the United Christian Missionary Society and furnishing funds for special wartime projects. The foreign missionary agency has been able to continue its work in all fields except Japan and the Philippines, though with much readjustment and at greatly increased cost. The missionary magazine, *World Call,* increased its circulation to 46,154 (a gain of 6,604, after a gain of 3,953 the year before).

The latest International Convention (U. S. and Canada) met at Grand Rapids, Mich., July 28-Aug. 2, 1942. The next, scheduled for May 1944, will probably be postponed until October. Its president is Rev. C. E. Lemmon of Columbia, Mo. Preparations are being made for a seminar on post-war problems to meet at Drake University, Des Moines, Ia. in February. The Disciples Divinity House, Chicago, is one of the four institutions of as many denominations which cooperated in forming the Federated Theological Faculty of the University of Chicago in July 1943.

PROTESTANT EPISCOPAL CHURCH

The 54th General Convention met in Cleveland, O. in October 1943; the 55th will be held in San Francisco, October 1946. The church now has 1,520,394 communicants (2,188,573 baptized persons including children) in 7,716 parishes and missions, with 6,344 clergy. In 1943, 207 priests were ordained. Baptisms were 77,972; confirmations, 65,495; pupils enrolled in 5,000 Sunday schools numbered 409,078. The ratio of communicants to population is 1 to 90; a decade ago it was 1 to 97.

The Convention adopted a budget of $2,615,382 for 1944, and provided for a reconstruction fund to restore property and work in mission fields after the war. More than 500 Episcopal clergy are serving as chaplains. Bishop Sherrill heads the Army and Navy Commission, which also aids parishes near Army camps for which special funds are raised annually. A Committee on Work in Industrial Defense Areas, Bishop Creighton chairman, cooperates with other Christian bodies to provide an effective ministry for these districts. Special obligation is felt toward minority groups in wartime. Help was continued to Japanese-Americans in resettlement and education, under the leadership of Bishop Reifsnider, formerly a bishop in Japan, who is also chairman of the interdenominational Protestant Church Commission for Japanese Service. A Negro clergyman, Rev. Bravid W. Harris, was named by the National Council as secretary for Negro work. The church has 63,000 Negro communicants, of whom 50,000 are in cities, and recognizes the need to develop its work in rural areas, where the bulk of the Negro population is.

Under an amended canon concerning retiring age, Presiding Bishop Henry St. George Tucker was continued for another triennium. Under the new canon, a Presiding Bishop must resign his diocesan jurisdiction. Bishop Tucker did so, and on Jan. 1, 1944, ceased to be Bishop of Virginia. The Presiding Bishop's ten-year plan, Forward in Service, stressed Christian community services and parish surveys of community resources and parish programs. A Committee on Laymen's Work was formed, Harvey S. Firestone, Jr., chairman. The Presiding Bishop's Fund for World Relief received more than $100,000, which was distributed through accredited agencies for relief of suffering peoples in China, Greece, Poland, Russia, and elsewhere. The women's Thank Offering gift of $1,119,878, the largest in 50 years, will be used during the next three years to train and support women workers and provide for their retirement, to provide buildings and equipment in mission fields, and to meet needs created by war.

The General Convention adopted a report of the Joint Commission on Social reconstruction, Bishop Scarlett chairman, which declared that the "coming peace must provide over-all arrangement for international collaboration in dealing with common world problems, with supervision and control of military establishments and the creation of an international police power, with collaboration in broad world problems of finance and economics, and a renunciation of any policy of isolationism by the United States."

EVANGELICAL CHURCH

The membership has now reached 250,000. Four fifths of it is east of the Mississippi. The 1,982 congregations are served by 1,239 active ministers (out of 1,623 ordained). The churches and the denomination have property valued at $33,930,610. The number of chaplains in the armed forces is above 40. An "increasing and acute" ministerial shortage is felt. This is one of the few denominations in which the number enrolled in Sunday schools (275,344) exceeds the total church membership. About 10,000 Sunday school pupils unite with the church annually. Leadership Education classes have increased to 3,266 members, and week-day church schools have doubled in the last three years. The Albright Brotherhood, with "Brother, Get your Man" as its slogan with 516 organizations of 15,152 members, sponsored a Men's Day in October and an eight-point program for the enlistment and development of men in Christian life and service. The denomination lays emphasis on evangelism and is now engaged in a new quadrennial program under the direction of Dr. R. H. Mueller, general secretary of evangelism, with a commission on evangelism in each annual conference and a committee in each church.

Mission work, cut off in some fields, continues in China, where activities are carried on in some of the hot spots of the war, and in Africa, to which five new missionaries are under appointment for medical work in northern Nigeria. The Woman's Missionary Society, with 84,721 members, had its sixtieth anniversary in 1943. For rehabilitation and post-war work a fund of $100,000 is being raised, half of which is now in hand. A unified youth program, the Evangelical Youth Fellowship, to take the place of all existing youth agencies except the Sunday school, will be launched April 1, 1944.

Offerings for all purposes were $5,802,752, of which 10 per cent was for missions. Church debts were reduced by $1,500,000.

The plans for union with the United Brethren have been perfected and were adopted by the General Conference of the Evangelical Church. They await action by the General Conference of the United Brethren in May 1945 and approval by the annual conferences of both. It is possible that the union may be consummated by autumn of 1946.

LUTHERAN CHURCHES

The American Lutheran Conference embraces five separate but closely cooperating bodies: American Lutheran Church, Augustana Synod, Norwegian Lutheran Church in America, Lutheran Free Church, and United Danish Evangelical Lutheran Church in America. These have 1,621,608 baptized members, 6,262 congregations, 4,444 ordained pastors, and 9,070 congregational schools with 589,016 pupils. Membership gained 103,316 in the year. They raised $14,892,325 for local expenses and $4,566,575 for benevolences in 1942. The Norwegian and Free churches and the Augustana Synod are in the midst of plans for the centenary of their work in America. The Norwegian Church, with $1,400,000 as the goal of a centennial fund for clearing indebtedness, providing new seminary buildings, and enlarging the pastors' pension fund, already has $2,700,000 pledged and $2,000,000 paid in. The Lutheran Free Church (only about one-tenth the size of the others) gave $150,000 to its centennial fund in 1943, and Augustana Synod received pledges of about $2,000,000. Festivals and special services marked the celebration in all three. The program for services to Lutheran students at colleges and universities has been expended.

The United Lutheran Church, with a membership slightly greater than the combined membership of the five bodies of the American Lutheran Conference, cooperates with these in the American Lutheran Council and contributed about half of the $1,241,314 which the Council raised (oversubscribing a $1,000,000 budget) for work among service men and in defense areas, the support of orphaned missions, and other projects. The former residence of the late J. Pierpont Morgan, at Madison Ave. and 37th St., New York, was purchased and will be used as headquarters for the United Lutheran Church. A commission of 14 members was chosen to represent the church in relation to the Federal Council of Churches. Preliminary steps were taken toward a unified Lutheran approach to missionary tasks in South America. Fifty furloughed missionaries, with board members and others, met at Gettysburg, Pa., May 30-June 4, in a School for Missions. A plan has been developed for a school of missions in every congregation. Contributions for benevolences increased $150,000 in 1943 over 1942. The 25th anniversary of the United Lutheran Church was celebrated on Nov. 14. A lectureship was established in honor of Dr. F. H. Knubel and Dr. E. Clarence Miller, who have been president and treasurer, respectively, through the entire period.

The Synodical Conference is a federation of four separate bodies: the Synod of Missouri, Ohio, and Other

States; the Joint Synod of Wisconsin, the Norwegian Synod, and the Slovak Synod. These meet in a biennial convention and together they carry on certain joint operations, notably the Negro mission in the United States and in Nigeria. The Missouri Synod conducts missions in Argentina (12,760 baptized members), Brazil (40,040), India, China, and in North America. The total membership of the four synods (15,608) and their missions is 1,809,033, of whom about 1,450,000 are in the Missouri Synod. The Synodical Conference has 4,137 pastors in the United States and Canada and 157 in foreign fields, 5,742 churches and stations at home and 868 abroad, 302,672 pupils in 4,575 Sunday schools, 1,691 parochial schools enrolling 97,237 students, eight theological seminaries (including one each in Argentina, Brazil, India, and China, two teachers colleges, one university, 17 junior colleges, and several parish high schools. (The name "Concordia" identifies a Missouri Synod college or seminary.) The Synodical Conference has been very active in ministering to its men in the armed forces. Forty full-time and 35 part-time workers are employed at the Chicago headquarters of the Missouri Synod's Army and Navy Commission, and about 180 chaplains are in service. About 800 "contact key pastors" give special service to Lutheran service men where no Lutheran chaplain is available. It is reported that 20 army chaplains and 30 civilian pastors devote full time to working among German prisoners of war. Plans are being made for the reinforcement of the stricken Lutheran Church in central Europe at the end of the war.

MENNONITE CHURCH

The 23rd biennial Mennonite General Conference met at Goshen, Ind. Aug. 18-24, 1943. Special interest was taken in the reports of committees dealing with the doctrines of nonconformity and nonresistance. "The conference felt keenly the present drift toward worldliness within the church and it took action and measures to halt the drift." The administration of the Civilian Public Service camps by the Mennonite Central committee (representing 13 branches of the Mennonite Church) was, in general, approved. There are 2,911 men in 44 such camps. Relief work is being done in, or planned for, England, France, Paraguay, Puerto Rico, the Middle East, and China by a staff of about 40 workers. Allen H. Erb was elected moderator for the next biennium. The total membership as of Jan. 1, 1944 is given as 59,738, a gain of 92 in the year.

THE METHODIST CHURCH

With 1943 statistics still incomplete, there are 7,713,891 members (including 1,173,467 "non-resident"), a gain of 80,820; Sunday school enrollment is 5,093,558; 24,176 ministers serve 42,000 congregations in the United States. There are about 500,000 members on mission fields. During the year there were 143,314 baptisms of adults, 124,104 of children. Finances have improved and debts have been reduced. In the fiscal year ended May 31, 1943, contributions for local expenses, including salaries, were $79,041,364; for benevolences, $4,834,686 (gain of 11.6 per cent); for overseas relief, $464,049, plus $306,350 in the six months ended Dec. 1. The Division of Foreign Missions has been able to clear its debt, above $3,000,000 at its peak, and to repatriate its workers from war-torn lands. Receipts of the Episcopal Fund were $720,588 (a record), and of the Administrative Fund $160,220. The Methodist Publishing House had the most prosperous year of its century and a half. Sales of books and periodicals were $6,326,144. The *Christian Advocate* has a weekly circulation of 250,000. Increased earnings enabled the publishing house to distribute $250,000 among retired ministers, reduce its debt, and set up a reserve for new equipment.

The Council of Bishops has planned a Crusade for a New World Order, to focus the influence of the Methodist Church for the promotion of a lasting peace and a Christian social order. Public meetings in 80 centers and radio addresses were scheduled to urge international collaboration *vs.* isolation. Every minister was asked to preach on this subject on Jan. 30, and the last Sunday in March was designated as a Day of Dedication. Bishop Oxnam is chairman of the committee in charge.

The second General Conference, since the union, will convene in Kansas City April 26, 1944 for a session of about ten days, instead of the usual month. Pending proposals relate to the election and interchange of bishops, the functions of Jurisdictional Conferences, and the present policy of segregating Negro members in a separate jurisdiction (called "Central"). The supreme court of South Carolina upheld the validity of the 1939 union but denied to the united church the exclusive use of the name "Methodist Episcopal Church, South."

The Division of Foreign Missions, with receipts increased to $2,327,012 and its permanent funds to $4,742,561, carried on its work in all areas where conditions permitted, assisted schools and churches in China and elsewhere, planned the Delaware (Ohio) conference on Christian Bases for a New World Order, and laid the foundation for a pension system for the 1,600 retired missionaries by designating the E. L. Collins legacy (expected to yield about $3,000,000) as the Collins Pension Fund for Missionaries.

The Methodist Church has nine universities, 10 schools of theology, 69 colleges, 27 junior colleges, 18 secondary schools, and two training schools in the United States. About 15,000 trainees for military service are in the larger institutions. Northwestern University received a bequest of over $20,000,000 from the late Walter P. Murphy of Chicago, following his previous gift of $6,000,000; its endowment, $86,662,000, ranks fifth in the country. The 77 Methodist hospitals, with 13,248 beds, treated 636,458 patients. The 56 homes for children cared for 6,847. Homes for the aged sheltered 3,777. Twenty-four homes for young business men and women had 1,165 occupants.

There are no exact statistics on the chaplaincy, but the 100th Methodist chaplain for the Army and the 300th for the Navy were accepted in November. Bishop Peel succeeded the late Bishop Leonard as head of the Methodist chaplaincy committee. The third national conference of the Methodist Youth Fellowship, Jacksonville, Ill., September, urged an end of the war "at the earliest possible moment that an honorable peace can be made," declared that the church should not, as a church, actively support or participate in the war, condemned universal military training and conscription of manpower, and took advanced views on race relations.

PRESBYTERIAN CHURCH IN THE U. S.

The Presbyterian Church in the U. S. (South), as of March 31, 1943, had 553,797 members, 2,542 ministers, 3,502 churches, 88 presbyteries, and 17 synods generally on state lines in the southern states. Members received were 16,705 on profession of faith, 24,072 by certificate. There were 9,973 adult and 7,973 infant baptisms. Local church expenses, including salaries, were $7,772,955; building expenses, $2,321,334; benevolences, $4,178,159. Per capita giving was $7.54 for benevolences, $18.05 for current expenses. Missions are conducted in Africa, Brazil, China, Japan, Korea and Mexico, with 337 American missionaries. Of more than 200 missionaries in Japan, Korea and occupied China, only 24 remain, and these are interned. In the United States the church maintains four theological seminaries, one training school for white lay workers and two for Negroes, 13 colleges, eight junior colleges, two preparatory schools, three mission schools, four mountain schools, two Mexican schools, 16 orphans' homes and schools. The church exceeds its quota of chaplains, with 114 in the Army and 54 in the Navy (May 11). A Defense Service

Council assists churches adjacent to Army camps. Special funds of $100,000 and $250,000 have been authorized to meet this need and to care for new industrial communities. The 83rd General Assembly met at Montreat, N. C., May 1943, Rev. Donald W. Richardson moderator. The 1944 General Assembly will convene at Montreat May 25.

THE PRESBYTERIAN CHURCH IN THE U. S. A.

The church reports, for the year ended March 31, 1943, a communicant membership of 2,051,861 (up 11,369), with 9,434 ordained ministers, of whom over 500 are in war service, and 1,300 enrolled "candidates" for the ministry. Its 8,678 congregations are organized in 271 presbyteries and these in 40 synods covering the entire nation. Expenditures for local church and denominational expenses were $38,891,557; for missions and benevolences, $5,714,732; additional for war emergency causes, $1,102,000. Total gifts, $47,442,717, exceeded that of 1942 by $2,684,613 and came to $23.69 per capita. Members received on profession of faith were 72,072 (down 21,674); by transfer, 50,026 (down 6,687); infant baptisms, 46,382. The 155th General Assembly convened at Detroit May 27, 1943; elected Dr. Henry Sloan Coffin moderator; heard reports of progress toward re-union with the southern branch of the church and genuine, though less definite, advance in the negotiations for union with the Protestant Episcopal Church; commended the "Six Pillars of Peace" and the "Concise Summary of Principles" drafted by its own Committee on a Righteous Peace. The General Assembly observed the tercentenary of the Westminster Assembly, which was also widely celebrated among the churches. The 156th General Assembly will convene at Chicago, May 25, 1944.

THE UNITED PRESBYTERIAN CHURCH

The church held its General Assembly May 26-31 on the campus of Westminster College, New Wilmington, Pa. Rev. W. Bruce Wilson was elected moderator. The tercentenary of the Westminster Assembly was celebrated, and an emergency fund for the church colleges was authorized. The church's 191,369 members contributed $4,949,667 for all purposes during the year, or $25.86 per member. Sixty-five ministers are chaplains with the armed forces. Dr. John McNaugher retired after 56 years on the faculty of Pittsburgh-Xenia Theological Seminary.

UNITARIANS

Membership of the 325 churches reporting to Unitarian headquarters totaled 136,000. If the 25 non-reporting churches have the same average, the whole membership would be (estimated) 146,253. "United Unitarian Appeal," which allocates funds to various denominational purposes and devotes about one-third of its resources to the work of the Service Committee and the War Service Council, has a goal of $135,000 for 1943-44. Receipts for the past year and local church expenses are not reported. United Unitarian Appeal publishes the statement: "The most recent census of religious bodies lists the Unitarians far above all other religious fellowships in the average value of their church buildings . . . first in average expenditures per church . . . at the bottom of the list of all major religious bodies in gifts to denominational benevolences." United Appeal, with the aid of the Layman's League, is making a strong effort to change the last item of this description. Notable work has been done by the Unitarian Service Committee, which has given aid to refugees and other sufferers in 12 countries. Thirty-three Unitarian chaplains are with the armed forces, and 53 other Unitarian ministers are doing full-time war service.

UNIVERSALIST CHURCH

At the biennial session, which convened at New York, Oct. 19, actions were taken and recommendations adopted betokening marked recovery from what the general superintendent calls the "all-time low of 1937" and a revival of hope and vigor. The organization has been legally changed from "The Universalist General Convention" to "The Universalist Church of America." A United Appeal has been organized for denominational purposes, regional workers have been engaged, organizational machinery has been made more efficient. A budget of $30,000 has been set for general church purposes. A liberal declaration of social principles was adopted, and a renewal of the application for membership in the Federal Council of Churches was voted. The directory, as of Sept. 1, 1943, shows 487 churches with 38.989 resident and 10,506 non-resident members. Twenty ministers have left parishes to become chaplains. The department of youth activities keeps in touch with the 4,000 Universalist young men in the armed forces, and has greatly increased the number of youth groups in local churches.

INTERDENOMINATIONAL ACTIVITIES

By Preston King Sheldon
Editor and Writer

RELIGIOUS STRUGGLE FOR WORLD ORDER

The convictions of religious leaders in North America on world problems came to a focus toward the end of 1943 when a joint pattern for peace was published by Protestants, Roman Catholics, Jews, and the heads of three Eastern Orthodox bodies. Cited by the World Alliance for International Friendship through the Churches as "the capstone of the many church pronouncements uttered in America during the course of the war," the statement carried forward, in far closer affiliation by these many otherwise divergent leaders, efforts separately tried in the years preceding the Second World War and during its incidence. The Alliance provided copies of the statement to its constituents in October together with an elaboration including comments in religious periodicals and secular newspapers. The issuing of the statement, according to the Alliance *News Letter* in that month, marked "an important development in the religious struggle for world order." A total of 146 signers were listed to "seven key principles, basic to the construction of a just and stable international life."

Among the signers were the heads of 21 Protestant communions, 22 national interdenominational agencies, 10 Roman Catholic archbishops, 14 Roman Catholic bishops, eminent priests and laymen, and the heads of 10 rabbinical institutions which took in the orthodox, conservative and reform groups and other representative rabbis. The signers for the Eastern Orthodox bodies, which in the onset of war were drawing gradually toward collaboration with Protestantism, were Metropolitan Theophilus Pashkovsky, of the Russian Orthodox Greek Catholic Church of America, Metropolitan Antony Bashir, of the Syrian Antiochian Orthodox Church, and Bishop Bohdan, New York City, of the Ukrainian Orthodox Church of America.

The statement gave evidence of concern for concrete political action. The Jesuit publication *America* declared these utterances had placed "upon all men a grave responsibility for their fulfillment. . . . The seven points are not compiled merely to be dreamed over." While the *Commonweal*, also Roman Catholic, stated: "If these principles are unflinchingly insisted on by American adherents of the major religious bodies, there will indeed be some chance of winning the peace." The *Christian Century* (Protestant) observed: "The total document does not pretend to be a blueprint. It confines itself strictly to basic principles." In connection with the signatures by Jews the united American Synagogue had said: "These seven principles, while they do not exhaust the teachings of the Jewish tradition on issues of social relationships, have their sanction in Judaism, both biblical and rabbinic."

PEACE PRINCIPLES ENUNCIATED BY THE CHURCHES

"1. The organization of a just peace depends upon practical recognition of the fact that not only individuals but nations, states and international society are subject to the sovereignty of God and to the moral law which comes from God.

"2. The dignity of the human person as the image of God must be set forth in all its essential implications in an international declaration of rights and be vindicated by the positive action of national governments and international organization. States as well as individuals must repudiate racial, religious or other discrimination in violation of those rights.

"3. The rights of all peoples, large and small, subject to the good of the organized world community, must be safeguarded within the framework of collective security. The progress of undeveloped, colonial or oppressed peoples toward political responsibility must be the object of international concern.

"4. National governments and international organization must respect and guarantee the rights of ethnic, religious and cultural minorities to economic livelihood, to equal opportunity for educational and cultural development, and to political equality.

"5. An enduring peace requires the organization of international institutions which will develop a body of international law; guarantee the faithful fulfilment of international obligations, and revise them when necessary; assure collective security by drastic limitation and continuing control of armaments, compulsory arbitration and adjudication of controversies, and the use when necessary of adequate sanctions to enforce the law.

"6. International economic collaboration to assist all states to provide an adequate standard of living for their citizens must replace the present economic monopoly and exploitation of natural resources by privileged groups and states.

"7. Since the harmony and well-being of the world community are intimately bound up with the internal equilibrium and social order of the individual states, steps must be taken to provide for the security of the family, the collaboration of all groups and classes in the interest of the common good, a standard of living adequate for self-development and family life, decent conditions of work, and participation by labor in decisions affecting its welfare."

Since the beginning of 1943 the concern of religious leaders over the winning of the peace had mounted. On Jan. 4-5, 38 Protestant leaders met in New York City to take up the project of a new world order. They faced the need of an immediate start, according to the *World Alliance News Letter*. "They worked on step-by-step procedures for action by ministers, laymen, women and youth groups in the churches," it reported. They adopted a Program for Action which they decided to follow, continuing as the nucleus of a board of strategy to be known as a "Christian Conference on War and Peace." Bishop Francis J. McConnell of the New York Methodist Area became chairman. They proposed no organization to compete with existing agencies, "but rather a process of consultation and joint planning by representatives of many religious groups." They stated: "In order to achieve some of the ideals of a better world order, it is necessary for church people to deal in a hardheaded way with problems of political action," and declared: "This group proposes to focus attention on certain concrete objectives and to develop a realistic strategy for Christian groups."

The conference voted unanimously to ask the American Council of the World Alliance to become an administrative agency and elected Richard Fagley, editor of the *World Alliance*

News Letter, as secretary. The executive committee of the Alliance approved the proposal on Jan. 6.

THE PROGRAM FOR ACTION

The following key objectives of the Conference thus set up were listed in the Program for Action: 1. Win the war and win the chance to build a better world. 2. A Council of the United Nations now to prosecute the War and Plan the Peace. 3. Economic cooperation by the United Nations to raise standards of living throughout the world. 4. Extend democracy at home, eliminate race discrimination and enlarge economic opportunity.

The program called for a pledge of support from the United States for the setting up of a United Nations council to include all nations cooperating in the war effort. Following the war the council was to be open to neutrals and later to former enemy nations "as soon as they shall be able and willing to assume the responsibilities of such membership." A particularly far-seeing attitude was embraced in a statement on the position of China and Russia among the Allies which stated: "It is a fortunate circumstance that the United Nations now include China and Russia. The membership of China exemplifies the principle which should have general application: that membership in the Council should be world-wide without distinction as to race or limitation as to region. The membership of Russia encourages us to believe that difference of national economic and political structures need not of itself prevent international cooperation for a world order of justice and peace." It further urged that "the United Nations should guard against domination or exploitation by the more powerful nations." It added: "If there is to be a world order of justice and peace, then the principles suggested above for international relations must be embodied in the life of individual nations, including our own."

RELATIONS WITH RUSSIA

Relations with Russia, of course, were of paramount concern in 1943, taking hold among religious leaders far in advance of the meeting of Roosevelt, Churchill, and Stalin in Teheran. That conference had for its immediate objectives the winning of the war. Among prophetic minds it appeared to offer no key to post-war objectives. It, therefore, became the object of criticism on that account, but among church leaders, particularly Protestants, anticipation of post-war objectives was manifest as early as April when Henry Smith Leiper, executive secretary of the department of relations with churches abroad of the Federal Council of the Churches of Christ in America, wrote his colleagues that "one of the great post-war problems will be that of relations with Russia. In this connection, a basic consideration will be the place of Christianity in Russia. Significant changes have been taking place of late which we would do well to try to understand. Recently there has been a new development of considerable significance. The Russian Government is evidently aware of the importance of church opinion in Allied lands, and in an effort to win support is now making available a book entitled: *The Truth About Religion in Russia.* This has already been presented to President Roosevelt and referred to by former Ambassador Davies." Dr. Leiper invited recipients of his letter to a public meeting in New York City of Friends of the Russian Orthodox Theological Academy in Paris.

In May the *World Alliance News Letter* devoted an entire issue to Soviet Russia and the United States of America. Citing the position of the Christian Conference on War and Peace on Russia in its Program for Action adopted in January, the *Letter* stated: "The job of promoting friendly relations between the United States and the Soviet Union is one in which the churches have an important role. We need to seek a sympathetic understanding of the Soviet people." It referred to a statement in a pamphlet *Baptists and the U.S.S.R.* by J. H. Rushbrooke, president of the

Baptist World Alliance: "If, as Christians, we are constrained to regard the Communist view of man as inadequate, since it excludes the infinite and eternal values arising from his relation to God, we are also under obligation honestly to appraise the practical advances in human welfare and the genuine altruistic spirit of many who have labored to achieve them."

That Communist ideology conflicted with both the Christian and Jewish faiths was recognized in a statement by 43 Protestant leaders in the late spring of 1943. "Nevertheless," it continued, "the fact remains that American-Soviet collaboration on a frank and friendly basis is essential to winning the war and to preventing a third world war with all its tragic consequences for the physical and spiritual life of mankind. Disagreement on religious and democratic issues must not obscure this cardinal point.

"The possibility that cooperation may be buttressed by friendship is real, if the peoples of both countries will work for this goal. The vitality and loyalty of the Russian people in reorganizing and industrializing their economic life and in organizing an amazing resistance to the military might of Nazi Germany reveal their sterling qualities. The Soviet Union, unlike the Axis powers, evidences essential elements of democracy, for democracy includes real concern for the welfare of the common people. It seems clear that Russian authorities have this concern for their people, shown, for example, in the development of popular education.

"There are signs that a more liberal attitude towards religion is being shown by Soviet officials. The enforcement of anti-religious measures has been relaxed to some extent, and the Russian people, a large percentage of whom have remained religious, are showing greater public interest in the churches. The present trend will be more likely to continue if American churchmen are willing to approach the Russian people with a friendly rather than a hostile or a negative attitude."

PROPOSED "PILLARS OF PEACE"

In support of the general trend of the drive for a new world order the Federal Council of the Churches of Christ in America began working on the objective immediately after its Commission to Study the Bases of a Just and Durable Peace had proclaimed in March a statement of political propositions under the title "Pillars of Peace." This statement proposed continued collaboration of the United Nations after the war and eventually that of neutral and enemy nations; international economic agreements; treaty structures adaptable to changing conditions; assurance of autonomy for subject peoples; control of armaments and the recognition of the right to religious and intellectual liberty of all peoples. The Council stimulated considerable discussion throughout the United States, Canada, and England through publication of these objectives. Numberless small groups were soon given opportunity to weigh their importance. A particularly significant discussion was conducted at Princeton, N. J., in the summer, attended by more than 60 churchmen of the United States, Canada, and other countries, and which ended by their drawing up a statement demanding, among other recommendations, drastic reduction of armaments, repudiation of national isolationism and the balance of power theory. The Canadians represented the Canadian Commission on Church, Nation and World Order and with the others came at the call of the Federal Council's commission on just and durable peace. Fourteen countries were represented. Meanwhile other British Christians were meeting, and before the summer was over the British Council of Churches, formally organized in September, 1942, published a statement on "A Christian Basis for Reconstruction," following a study made of the American proposals.

Commenting on the British statement, John Foster Dulles, chairman of the Federal Council's Commission on a Just and Durable Peace, said: "Its spirit will uplift, and its content will inform, the Christian people of America. Of equal importance is the fact that the British and American statements, taken together, strikingly manifest the power of Christianity to unite national groups in practical programs of common purpose." The British Council began immediately after its formation to put teeth into its program, going thoroughly into phases of social and economic problems as well as political in an attempt to wake up British Christians as to their responsibilities. They were moved to a great extent by the leadership of the Archbishop of Canterbury and an impetus in social thinking gained from contacts with Christian leaders from other countries dating back many years before the onset of the war. Non-Roman Christians in Great Britain were further drawn into common understanding by the war itself which magnified the need of world social change to them as it had to others. The council of churches in Great Britain replaced three other groups, which had been the Council on the Christian Faith and Common Life; the Commission of the Churches for International Friendship and Social Responsibility; and the British Section of the World Conference on Faith and Order. Its objectives were not merely domestic, but in common with those of the Christian councils of Protestants in other nations included world goals.

AMERICAN MISSION ON WORLD ORDER

Action on the program for world understanding, which was gaining momentum on all sides in the United States in 1943, was launched by Protestants at a mass meeting in the Cathedral of St. John the Divine, New York City, in late October, starting a national Christian mission campaign on world order carried into more than 100 cities in 36 states by a group of 75 men and women leaders in religion, education, government, law, and other fields. Audiences and study groups were organized with the program outlined under the Pillars of Peace suggestions as the objective of study and decision. The Christian Mission was supported in these projects by the Federal Council of the Churches of Christ in America, the Foreign Missions Conference of North America, the Home Missions Council of North America, the International Council of Religious Education, the Missionary Education Movement, and the United Council of Church Women.

Senator Joseph H. Ball of Minnesota, co-author of the Ball-Burton-Hatch-Hill resolution which proposed commitment of the United States to cooperation with other nations in the establishment and maintenance of international peace, was a speaker. The keynote address was by John Foster Dulles. The speakers were introduced by Presiding Bishop Henry St. George Tucker of the Episcopal Church. More than 1,000 church leaders took part in a procession with massed choirs, flags, and colorful gowns of many nations. Archbishop Athenagoras of the Greek Orthodox Church blessed the flags of the United Nations at the altar. About 6,000 persons witnessed the procession, the ritual, and heard the addresses.

In the absence of Sumner Welles, former Under Secretary of State, an address he had prepared was read for him by Roswell P. Barnes, associate general secretary of the Federal Council of Churches. Mr. Welles said no more vitally important contribution could have been made than that which was represented in the churches' program under this national mission. "The moral and the practical significance of the work which has been undertaken by the churches," he said, "founded as it is upon the great principles represented by the Six Pillars of Peace, is recognized throughout the length and breadth of this land of ours, and the concrete and constructive results of this great effort are already apparent to us all.

"The vital force of our religious faith is thus breathing the breath of life into the plans—and the confident hopes—of so many millions of our fellow-citizens for a new and better world when the tragic price of our future victory has been paid. There are few of us so blind as not to realize that unless the moral force of religious conviction impels, the goal of true and lasting international cooperation can not be attained."

Mr. Welles, speaking on the Kellogg-Briand Pact to outlaw war, said though it might have been second to none in loftiness of purpose and in its idealism, yet, "to the vast majority of the people of our country the signing of that agreement represented to them, at least temporarily, a writing off of all further international responsibility." He added: "Without in any way minimizing the importance or difficulty of political problems relating to the creation of a new cooperative world structure, it seems abundantly clear, on the basis of painful experience in the past, which should be fresh in the memory of everyone, that whatever system of international security we and the other United Nations may devise will need a strong economic foundation. . . . We can not afford to concentrate our attention solely on questions of political and military security, and overlook the economic problems which will confront us when the victory is gained. . . . Political cooperation and economic isolation simply will not mix." He also emphasized that collaboration among peace-minded powers could prove effective only "if it is based upon the frank recognition of the fact that peace-breakers can only be checked through the use of the forces which the powers who are determined to maintain peace will, under their own sovereign control, jointly make available by common agreement for the task of repressing the aggressor." Such collaboration, he said, could "only prove lasting and constructive if it is premised upon the creation of the international machinery required for close, continuing political and economic cooperation."

ATTITUDES OF THE CHURCHES ON WORLD ORDER

Meanwhile the Geneva staff of the study department of the Provisional Committee of the World Council of Churches, which was in process of formation through the agency of this committee, compiled 11 points from an analysis of statements by church groups and leaders in many countries on world problems to show wherein agreement prevailed, as follows:

"1. The Church has a specific task in relation to peace-making and the creation of an international order. A division on this point, however, arises over the question whether this task consists exclusively in reminding the nations of the Divine Commandments, or should include the interpretation of those Commandments in terms of concrete policy.

"2. The Church can perform its task in this realm by itself constituting a world-wide fellowship under one Lord in which national differences are eliminated.

"3. The Church must proclaim to the nations that Jesus Christ is Lord over all men and all powers.

"4. The Church must proclaim the Divine Commandments concerning the order that is to reign in the world.

"5. The Church will call the nations to repentance for their common guilt and to work for reconciliation.

"6. The Church is to proclaim that international relations must be subordinated to divine law.

"7. The Church is to proclaim that the State is neither an aim in itself nor a law unto itself, and that its God-given function is to maintain an order based on law that guarantees fundamental human rights.

"8. The Church will proclaim that political power must be exercised with a sense of responsibility toward all those who are affected by that power.

"9. The Church is to proclaim that society must provide all its members with the opportunity to fulfill a meaningful vocation, and that it should provide conditions of social security for all.

"10. The Church is to proclaim that the nations are interdependent, and that they must all have equal access to the resources of the earth.

"11. The Church will proclaim that

no people can claim the right to rule over another people, and that the dominating purpose of colonial administration must be to prepare colonial peoples for self-government."

The staff found, however, divergence and disagreement on certain implications of the statements. It also prepared a more extensive analysis "for the purpose of clarifying agreements and disagreements existing between the churches and members of the Council, and the clarifying of issues for further discussion in preparation for the elaboration of a just and durable peace."

Both the 11 points and the more extensive analysis were printed by the American Office of the World Council of Churches, 297 Fourth Ave., New York. The former was made available free in single copies, the latter for 10 cents per copy.

The World Council of Churches, proposed through its provisional committee, had received the support of 82 churches in 28 countries by November, 1943 and early in the year reported an increase in contributions of 17 per cent in 1942 over 1941. Gifts from denominational treasuries increased by 27 per cent.

WORLD ALLIANCE EFFORTS FOR WORLD PEACE

The twenty-eighth annual meeting of the World Alliance for International Friendship through the Churches was held in Toledo, O., Nov. 11-12, 1943 in conjunction with an institute on "Win the War—Win the Peace." Among the topics taken up were: Relief and Rehabilitation; Management and Labor in the Post-War World; World Organization; Education in the Post-War World; and Religion in the Post-War World.

Determination to give "unqualified support to the principles for a new world order as set forth in the Atlantic Charter and now implemented in the Moscow Agreements" marked this annual meeting. Our Government was commended "for taking a prominent part in helping to bring about these momentous agreements" and the Senate and House of Representatives for their part in voting "to cooperate in the creation of machinery for collective security." Its own task was set forth as "primarily to influence public opinion through the churches and other religious organizations" through the following means:

"1. To continue holding institutes and conferences on the basis of win the war—win the peace, in cooperation with the agencies with which we have collaborated during the past year.

"2. To help promote and service local church committees on world order for study and action on issues on international organization as they arise.

"3. Continue to help the chaplains and men in the armed services with study material on world order.

"4. To help religious groups to develop an adequate war and post-war service program in cooperation with other groups in American life.

"5. To join with other agencies in promoting community committees on the United Nations for better understanding of mutual problems and for better organization to meet those problems.

"6. To foster interreligious conferences on religious objectives for world order as exemplified by the *Pattern for Peace* signed by leaders of the three great faiths.

"7. To prepare educational materials to service these aims and to foster cooperative efforts towards this end."

An outstanding project of the type helped by the World Alliance in 1943 was a poll taken on Nov. 11, under auspices of the United Council of Church Women, representing 27 national organizations denominationally and seven interdenominationally. One of the manifestations of the growing demand for an international outlook by the time of the Second World War was the setting aside by these women of Armistice Day as World Community Day and the growth of emphasis upon world government in programs conducted to celebrate it. The *World Alliance News Letter* reported that about 90,000 copies of a handbook for such an emphasis had been sent out in advance and at the close of the programs the women would be invited "to focus thinking on the problem of American participation in world organization and on the question of personal sacrifice to relieve distress, restore order, and help with reconstruction." The women themselves reported returns from 1,600 communities including the District of Columbia and Hawaii on the balloting which was conducted for a "yes" or "no" vote on the following:

"1. Would you be willing to instruct your senator and your representative in Washington to vote for a bill which would authorize the United States to join a world organization for the purpose of insuring a just and durable peace and share in its expense and all other responsibilities involved?

"2. Would you be willing to continue for a period after the war such wartime regulations as the rationing of food, gasoline, and restrictions of travel, etc., if such were necessary to relieve distress, restore order, and help other nations to recover from their war damages?"

About 100,000 ballots were received with a vote of 53-to-1 in the affirmative on world organization and 44-to-1 on rationing. The results were immediately broken down and sent to senators and representatives in Washington, D.C. While the program was set up by Protestants, it was reported that in several communities Jewish and Roman Catholic women also voted. The largest community response was from Chicago, where 1,200 women met and cast ballots. The major part of the results were received during the debate in Washington on the bill to commit the United States to participation with other nations in postwar problems which was finally passed.

Through its *News Letter* the World Alliance for International Friendship through the churches continued to issue monthly, except in July and August, extended reports on the activities of all religious groups, covering pretty completely not only things accomplished or discussed but stressing anticipated tasks that were bound to result from war, including food shortages, bigotry, and race hatreds, famine and disease, both from the point of view of relief and restoration and of social economics and conservation. Bibliographies were kept up to date, listing important periodicals, books, and pamphlets and where obtained. Women's and young people's activities and denominational pronouncements on current problems were also carried. On the subject of race it supported the repeal of the Chinese exclusion laws. It also deliberated on American foreign policy.

FEDERAL COUNCIL ON RACE PROBLEMS

On the matter of race relations, an annual message from the Federal Council of the Churches of Christ in America, issued in early December, challenged the evils of racial segregation and discrimination announcing the annual observance of Race Relations Sunday, Feb. 13, 1944, throughout the United States. "Most Americans are united in two resolutions," the message stated, "to win the war as quickly as possible and to see that victory shall lead to a cooperative world order—an order in which all men shall be free. The road to this peace and freedom is not the path of injustice and prejudice. That path leads to revolution and recurrent wars. Our cause is that of millions of men and women of many nations and races who are resisting tyranny. . . . Anti-Semitism, ill-treatment of Negroes and Japanese-Americans, Oriental exclusion acts, race riots in widely separated places, with growing resentment by dark-skinned peoples against white domination and their feeling that they are deprived of the position properly belonging to free men in a democratic society, make it mandatory for Christians to speak with prophetic voice and act with apostolic conviction."

The Federal Council of Churches set up a commission on Democracy in Race and Cultural Relations as a wartime emergency measure and appointed Bradford S. Abernethy on

Sept. 1, as director. Will W. Alexander was made chairman. Among the projects undertaken by appropriate committees of this council, the Home Missions Council, the Foreign Missions Conference of North America, and local federations of churches was that of accommodating Japanese-American evacuees in metropolitan areas. George E. Rundquist is executive secretary of a national committee on resettlement of Japanese-Americans with his office at 297 Fourth Avenue, New York City. Many of these who were helped were members of the armed forces on leave who were welcomed at specially prepared centers to which were invited members of young people organizations. The Council was also represented, along with the National Catholic Welfare Conference, the Central Conference of American Rabbis and the Fraternal Council of Negro Churches, on April 9, at a conference with Paul V. McNutt, chairman of the War Manpower Commission, uniting in a common appeal for non-discrimination in war industries. They approved with energy the Committee on Fair Employment Practice set up by President Roosevelt and urged it be given a free hand.

Other projects of the Federal Council in 1943 included the annual meeting of its committee on the Church and Cooperatives which met in February to hear a report by J. Henry Carpenter, its chairman, who returned in December, 1942 from a tour of India and in China, where, under a joint arrangement with our own government and that of China, he made an inspection of Chinese industrial cooperatives and filed a report to Dr. H. H. Kung, the president of the Chinese Industrial Cooperatives.

COOPERATIVE ORGANIZATION

James Myers, executive secretary of the Council's committee on the church and cooperatives, reported on interfaith, labor, and cooperative conferences, saying there was a growing discussion of cooperatives particularly among the young. The committee voted to explore the possibilities of cooperative organizing to supplement existing educational, agricultural, and medical missionary work carried on by the Home and Foreign Missionary Councils. For some time rural church cooperative projects, closely allied in motivation with the cooperative movement, had been going on, and in September 431 persons registered from the United States and Canada at Columbus, O., under the auspices of the Committee on Town and Country of the Home Missions and Federal councils. Forty-one states were represented. They heard an address by Perry L. Green, president of the Ohio Farm Bureau Federation, in a symposium in which representatives of the AAA, FSA, and Extension Service also spoke. Most of the interest among ministers centered around the Farm Security Administration and its program for the future of farmers. Another speaker was Murray D. Lincoln, president of the Cooperative League of the U.S.A., who was the only non-government representative of the United States at the United Nations Food Conference in May. Several other speakers from cooperative circles were also heard. Special attention was given to farm tenancy and ownership with five addresses by members of the Committee on Land Tenure which had studied the problem for several years in cooperation with the Farm Foundation of Chicago.

THE CHURCHES AND THE LAND PROBLEM

Benson Y. Landis, secretary of the committee which convoked the assembly in Columbus in September, had written at length on the land problem in the April issue of the Federal Council bulletin, where he listed a summary of recommendations to the churches from two special seminars held previously in cooperation with the Farm Foundation of Chicago, as follows:

"The local church should be interested in all the people in the community, tenants, laborers, landlords, owner-operators.

"The local church has a responsibility to oppose 'intrenched community evils and social injustices.'

"The local church should aid in the correlation of all constructive social efforts.

"The local church should develop appreciation of the rural community and of farming as a way of life.

"Organized discussion groups under church auspices to consider tenancy and other rural problems will be helpful.

"The local church should always encourage young people to become farm owners.

"Local churches, as non-partisan agencies, are in a good position to bring together landlords and tenants for consideration of common interests.

"The local church has an obligation to teach 'the stewardship idea' of land ownership.

"The local church should encourage the organization of credit unions."

Among the recommendations of the members of the same seminars to national church agencies were the following:

"National mission boards should make demonstrations of programs of land settlement and rehabilitation. Church agencies should be willing to set aside some of their funds to be loaned to selected young farmers. The churches should be willing to make this type of investment in rural social security.

"It was also reported that church agencies already own 'hundreds of farms.' It was stated that these are generally rented unsystematically, and that systematic efforts should be made to develop constructive use of these farm lands so as to encourage farm ownership."

Further, the national church agencies should:

"Develop a clearing-house of information on what the churches are doing locally and nationally to encourage farm ownership.

"Represent rural Protestantism effectively in the councils of the nation where policies and programs of agriculture and rural life are being worked out.

"Prepare popular literature on the church and farm tenancy and ownership.

"Publish 'case studies' of successful local efforts, and circulate them throughout the Church generally."

RELIGION AND HEALTH

Three regional conferences on religion and health were conducted by the Federal Council's Commission on Religion and Health in the late spring and summer, in cooperation with theological schools and other groups, in Nashville, Chicago, and New York, more than 100 ministers attending each. The commission completed its first five years of work on Feb. 16, celebrating the anniversary at a dinner at the Central Y.W.C.A., New York City.

The Council continued its customary annual programs on race relations Sunday, Feb. 14, with 140 cities participating in 35 States: for the third year through its Inter-Council Committee on Christian Family Life, promoted its emphasis in programs starting with May 1 as Child Health Day and ending on Mothers' Day, May 9; coordinated activities of Protestant chaplains with the armed forces and of clergymen in army camps and war industrial areas, particularly on Sunday, Oct. 3, with World Wide Communion services; reaffirmed the rights of labor in its annual message for Labor Sunday in September; announced in May the appointment of a committee of scholars, headed by Robert L. Calhoun of Yale Divinity School, to study and report on "the Relation of the Church to the War in the Light of the Christian Faith" as authorized at the 1942 biennial meeting of the Council; conducted a series of missions to Japanese relocation centers; and among other forward looking steps initiated through its Department of Research and Education a study of "Cooperative Church Finance" in current budgetary practices of churches relating to State and local councils.

UNITED STEWARDSHIP COUNCIL

The United Stewardship Council

announced in its annual analysis of contributions of living donors to Protestant churches in the United States and Canada, as reported by national officers of religious denominations, that there were increases in all benevolences in 1943 over contributions in 1942. The analysis was compiled by Harry S. Myers, secretary of the Council, Hillsdale, Mich.

CHURCH PENSIONS CONFERENCE

The annual report of the Church Pensions Conference covering resources and relief and pension payments to clergymen and members of the retirement fund systems of the Y.M.C.A. and Y.W.C.A., covering in all 21 reporting organizations, disclosed a constituent membership of 29,174,320 in the agencies, reporting pension programs for 115,198 ministers and secretaries and 142,191 churches and associations. The report covered the period ended Nov. 1, 1943 and showed payment of $13,767,058 in benefits to 42,730 beneficiaries in the year ended on that date. The number of ministers and others paying dues to denominational and organizational pension funds totalled 53,402, an increase over the preceding year, of 572, according to a memorandum. The number of congregational units and associations paying dues was 92,764, an increase of 4,776. The number of beneficiaries on relief, that is, receiving aid under a system of benevolences to which they had not contributed, showed a decrease from 9,547 in 1942 to 9,291 in 1943. Pension beneficiaries increased by 976, reaching a total of 33,439. The relief benefits paid totalled $1,574,530, the pension benefits, $11,862,355, and miscellaneous, $330,173. The year's payments in these categories increased by 5 per cent or $653,319 over the previous year. The total income of all the reporting organizations was $21,564,338, an increase of $1,067,743. Of this the amounts were received as follows: 23.1 per cent, from church budgets; 22.9 per cent from congregational pension dues; 13 per cent from members' individual pension dues; 36.3 per cent as investment income; and 4.7 per cent from miscellaneous sources. The total funds in the hands of the 21 groups were $222,488,816.

THE ROMAN CATHOLIC CHURCH

BY HENRY P. LEFEBURE
NATIONAL CATHOLIC WELFARE CONFERENCE

THE CHURCH'S WAR EFFORT

"Win the war and win the peace" were important themes in the activity of the Catholic Church throughout the United States' second year in the war. Churchmen and church facilities were devoted unstintingly to the war effort in fulfilling the Catholic Bishops' pledge made to President Roosevelt at the beginning of the war to marshal all spiritual forces at their command to safeguard "our God-given blessings of freedom." The thought and effort of Catholic leaders and scholars, the use of institutions, organizations, and facilities was given not only to the war effort but also to the important tasks of winning the peace and as far as possible bringing relief to the suffering peoples in war devastated countries around the world.

NATIONAL CATHOLIC COMMUNITY SERVICE

First and one of the most extensive of Catholic wartime operations is the National Catholic Community Service, member agency of the USO (United Service Organizations, Inc.), whose organization was authorized by the Bishops at their annual General Meeting in Washington in November, 1940. The NCCS, as it is commonly called, was designated by the Church in the United States to look after the spiritual and physical welfare of men and women on leave from Army bases and Naval stations as well as war production workers during their hours of relaxation.

In 48 states, and in off-shore bases from the Aleutians to Trinidad, the NCCS served men and women throughout the year in its more than 425 clubs and "operations." Besides, the agency's representatives worked in USO clubs in Alaska, Cuba, Newfoundland, Bermuda, Brazil, Panama, Puerto Rico, Curaçao, British Columbia, and Hawaii. A professional staff of nearly 700 employees was augmented by more than 1,200 non-professional assistants.

BISHOPS' WAR EMERGENCY AND RELIEF COMMITTEE

Even more far reaching than that of NCCS has been the activity of the Bishops' War Emergency and Relief Committee, whose chief work during the year was the giving of assistance to suffering and distressed victims of war throughout the world. Through the neutral agency of the Vatican, it was possible for the Committee to aid the suffering peoples of Poland, Belgium, China, France, the Netherlands, Scandinavian and Balkan countries, as well as a dozen other war-torn lands.

Among the important beneficiaries also have been American and Allied prisoners of war in the Philippines, in Italy and in Germany, as well as war refugees-exiles from Poland, Germany, Austria, and other countries who have succeeded in reaching points outside the war area. Refugee work in the United States, for example, has been directed toward spiritual and material aid to persons who, because of racial, political, or religious reasons have been victims of persecution and unwillingly exiled from their homelands. More than 5,000 cases are handled annually by the refugee committee.

Other aid given by the Committee in 1943 was extended to missionaries interned in the Far East, to the people of Calcutta, India, and to organizations in England, Australia, Northern Ireland, Africa, the Middle East, and India for assistance to American servicemen overseas.

WAR RELIEF SERVICES

War Relief Services, National Catholic Welfare Conference, was set up during 1943 as an agency of the Administrative Board of the Conference and a participating service of the National War Fund. Eleven projects were scheduled, including activities on behalf of refugees in the United States; Polish refugees in the Near East; Polish refugees in Mexico; for relief work in Malta, particularly among child victims of the war; for medical equipment, supplies, and clothing for social work activities conducted by the White Fathers and the White Sisters in orphanages, hospitals, dispensaries, and nurseries in Algeria and Tunisia; for aid to refugees in Spain and Portugal; for aid to evacuated children and refugees in England; for Catholic internees and refugees in Switzerland and elsewhere in Europe; for aid to hospitals, dispensaries, orphanages, and refugees in China; for war prisoners and for services to seamen. A budget of $2,376,000 was prepared for these activities for the first period of operations.

ACTIVITIES RELATING TO PEACE

Notable among many activities towards establishment of a just and enduring peace when the war is won, were the issuance of a volume entitled *Principles for Peace*, prepared by the Bishops' Committee on the Pope's Peace Points, and published by the National Catholic Welfare Conference; together with publication of a statement on the "Essentials of a Good Peace" by the Administrative Board of the N.C.W.C.

Principles for Peace is an authoritative and monumental work, comprising 890 pages of pronouncements on peace issued over a period of 65 years by Popes Leo XIII, Pius X, Benedict XV, Pius XI, and Pius XII. In addition to international relations, the documents treat of social and economic reform, which are closely related. In his foreword to the book, Most Rev. Samuel A. Stritch, Archbishop of Chicago and chairman of the Committee on the Pope's Peace Points' states: "This time, we must make a peace which will give lasting security to all nations and peoples. It is hard to contemplate what would be the consequences of a failure at the peace table when victory comes."

STATEMENTS ON PEACE

Widely published and distributed throughout the nation, the statement of the N.C.W.C. Administrative Board of Bishops on the "Essentials of a Good Peace" was issued at the direction of the annual General Meeting of Bishops held in Washington in November. "Speaking as pastors of souls and teachers of religion," the Bishops emphasized "fundamental social truths, deriving from religion, and [pleaded] for their general recognition." They reiterated the fact that "the social recognition of the Sovereignty of God and of the moral law must be a first norm for the right ordering of the internal life of nations."

The minimum needs for a just world peace were set forth by leading lay representatives of all faiths, and by Catholic prelates and clergy, Jewish rabbis, and Protestant ministers, in "A Statement of a Just Peace," issued simultaneously on Sept. 29 by the N.C.W.C. Department of Social Action, the Synagogue Council of America, and the Federal Council of Churches of Christ in America.

CATHOLIC ASSOCIATION FOR INTERNATIONAL PEACE

A long established group working for better international relations is the Catholic Association for International Peace with headquarters at 1312 Massachusetts Ave., N.W., Washington, D. C., among whose activities are featured the issuance of publications and the holding of conferences. During 1943, publications of the Association or of various of its committees included; *Transition from War to Peace, A Peace Agenda for the United Nations, Retributive Justice After the War,* and *Intercredal Cooperation.* The Association held regional meetings during the year in Washington, New York, Chicago, and Boston, at which problems relative to the world crisis were discussed.

NATIONAL CATHOLIC WELFARE CONFERENCE AND ITS AGENCIES

Many of the activities of the Church in the United States clear through the National Catholic Welfare Conference, official agency of the Archbishops and Bishops of the country. Membership in the N.C.W.C. includes every Bishop of the Church in the United States and its territories and possessions. Outside the Annual Meeting of the Hierarchy, usually held in November of each year, the work is carried on through the Administrative Board of the Conference and episcopal committees appointed by the general body.

It should be recalled that the incorporated purposes of the N.C.W.C. are "unifying, coordinating and organizing the Catholic people of the United States in works of education, social welfare, immigrant aid and other activities." Thus, the N.C.W.C. serves as a central clearing house of information and assistance in a great variety of Catholic interests through the maintenance of its several departments and bureaus, the listing of which indicates their scope and fields of interests: Executive, Youth, Education, Press, Social Action, Legal, Lay Organizations (National Council of Catholic Men, National Council of Catholic Women), and Catholic Action Study.

The Executive Department maintains bureaus as follows: Immigration, The National Center of Confraternity of Christian Doctrine, Information, Publications, Business and Auditing. This department is also responsible for the publication of *Catholic Action,* monthly publication of the N.C.W.C. The Education Department maintains bureaus as follows: Health, Library Service, Statistics and Information, and Teachers'

Registration. The Social Action Department has two separate divisions, the Family Life Bureau and the Rural Life Bureau. The Catholic Conference on Industrial Problems and the Catholic Association for International Peace, although not under the N.C.W.C., function largely under this department.

ANNUAL GENERAL MEETING OF THE HIERARCHY

Each year, in November, there is submitted to a general meeting of the American Hierarchy, by the Administrative Bishops of the N.C.W.C., reports of activities for the previous year. At this general meeting are elected the members of the N.C.W.C. Administrative Board, deputed by the general body to carry out its wishes for the coming year.

One hundred Archbishops and Bishops were in attendance at the Annual General Meeting of the Hierarchy held at Washington, D. C., Nov. 10-12, at which current problems facing the Church in the United States, particularly those occasioned by the Second World War, were considered. The Bishops sent the Holy Father their traditional message of greeting and devotion to the Holy See and also directed the issuance of a statement on the essentials of a good peace by the members of the Administrative Board of the National Catholic Welfare Conference. The Meeting elected the Most Rev. John G. Murray, Archbishop of St. Paul, and the Most Rev. James H. Ryan, Bishop of Omaha, to be new members of the N.C.W.C. Board, succeeding the Most Rev. John Mark Gannon, Bishop of Erie, and the Most Rev. John A. Duffy, Bishop of Buffalo.

N. C. W. C. PERSONNEL

Most Rev. Edward Mooney, Archbishop of Detroit, was again chosen chairman of the Administrative Board of the National Catholic Welfare Conference; the Most Rev. Samuel A. Stritch, Archbishop of Chicago, Vice-Chairman and Treasurer; and the Most Rev. Francis J. Spellman, Archbishop of New York, Secretary. The other members of the Administrative Board were re-elected as follows: The Most Rev. John T. McNicholas, O. P., Archbishop of Cincinnati; the Most Rev. John J. Mitty, Archbishop of San Francisco; the Most Rev. Joseph F. Rummel, Archbishop of New Orleans; the Most Rev. Karl J. Alter, Bishop of Toledo; and the Most Rev. John F. Noll, Bishop of Fort Wayne.

Various Committees continued by the General Meeting of the Bishops included the Bishops' Committees on the Confraternity of Christian Doctrine, on Motion Pictures, on the Propagation of the Faith, on the North American College in Rome, on the Montezuma Seminary for the training of Mexican candidates for the priesthood, on Decency in Literature, and on the Pope's Peace Points.

Through the above mentioned committees, departments, and bureaus, the Administrative Board of the N.C.W.C. executes such mandates and commissions as may be given to it by the general body of the Bishops. Full reports on activities of the Conference were reported at the 1943 General Meeting.

N. C. W. C. NEWS SERVICE

During the year, the N.C.W.C. News Service so strengthened its coverage of Vatican news as to become the only source of complete information on Vatican wartime thought and activity. This news of vital interest not only to the Catholics but to the people of the world generally was transmitted also by means of the Department's Spanish-language service, *Noticias Catolicas,* to the countries of Latin America.

The News Service registered an increase of 21 subscribers during 1943, bringing the total to 204. Despite prior loss of subscribers in several countries in the Orient owing to the war, the Service forged ahead in the number of lands served to a new high of 32.

CATHOLIC EDUCATION

Despite the necessary effects of the

war, enrollments in various divisions of the Catholic school system, were estimated as: 2,020,000 pupils in the nearly 8,000 elementary schools, 355,000 students in 2,100 high schools, 8,600 students in 98 major seminaries, 9,500 students in 83 preparatory seminaries, and 8,000 students in 36 diocesan teachers' colleges and normal schools. Wartime has steeled to greater efforts the 83,000 religious teachers who are devoting their lives to the cause of Catholic education and the 13,000 lay teachers who are making a notable contribution to the success of this great mission.

DISTRIBUTION OF LITERATURE TO ARMED FORCES

A total of 1,741,661 pieces of literature was distributed to the armed forces of the nation by the Confraternity of Christian Doctrine in cooperation with the St. Anthony's Guild Press. Directors of the Confraternity have been appointed in 107 archdioceses and dioceses in the United States. The findings of 12 standing committees are made available through the National Center in a monthly news letter to directors, and by periodic releases.

Preparation of a graded annotated book list for the Parent-Educator Series, Volume V, "Teaching Christian Citizenship in the Home," was undertaken during the year. In 32 dioceses, the celebration of Catechetical Day was observed in accordance with the Decree of the Sacred Congregation of the Council.

AID TO STUDENTS' CHAPLAINS

The N.C.W.C. Youth Department undertook during 1943 distribution of "grants-in-aid," from a fund of $50,000 appropriated by the Bishops' War Emergency and Relief Fund to alleviate more desperate needs of chaplains working with military and naval trainees on secular campuses. The appropriation assisted chaplains in providing for extra Masses, Confessions, sick calls, religious articles, and literature.

At the present time, 102 dioceses out of a total of 115 have appointed Diocesan Youth directors. Despite adverse circumstances, practically all of the organized dioceses conducted leadership training institutes for adult lay leaders during the year.

NATIONAL COUNCILS OF CATHOLIC MEN AND WOMEN

The National Council of Catholic Men cooperated in the work of the National Organization for Decent Literature by centralizing in its office the work of receiving reports from reviewers, compiling therefrom and periodically revising the list of publications not approved because of failure to conform to the N.O.D.L. Code, conducting negotiations with publishers concerning inclusion of their publications on the list or removal therefrom, and reporting its conclusions and recommendations to the chairman of the Episcopal Committee on Obscene Literature.

The Narberth Movement, a plan designed for the diffusion of information about Catholic faith and practice through the medium of pamphlets and press releases, was formally taken over by the National Council of Catholic Men at the end of 1942. In the course of the year 52 "Narberth" articles were prepared for publication in the secular press, as well as various other pieces of promotional literature.

A new nation-wide Catholic radio program, "The Hour of Faith," was inaugurated by the National Council of Catholic Men on Oct. 19 in cooperation with the Blue Network.

The headquarters of the National Council of Catholic Women continued to serve as a training center for Catholic women leaders, as a clearing house and publicity medium for programs of women's organizations, as a source of representation of Catholic women's interests in secular and governmental groups, as a liaison between Catholic women in the United States and the International Union of Catholic Women's Leagues, and as sponsor of the National Catholic School of Social Service.

CONFERENCE ON SPANISH SPEAKING PEOPLES IN THE UNITED STATES

A feature of the work of the N.C.W.C. Social Action Department was its sponsorship of a conference on the religious and economic problems of Spanish speaking groups in the United States, held during the week of July 19 in San Antonio, Tex. A detailed report of the recommendations of the Conference was printed and widely distributed among clerical and lay leaders. The Department also sent to 700 priests a monthly four-page letter, additional pamphlets and other material, and prepared a four-year course for seminarians' study clubs in the field of industrial relations.

INDUSTRIAL AND RACE RELATIONS

In the field of industrial relations, four regional two-day industrial conferences were held; members of the Social Action Department served on the U. S. Children's Bureau Advisory Committee for Protection of Children in Wartime and on the U. S. Inter-Departmental Committee on the Post-War Foreign Economic Policy, and also took active part in the revival of the U. S. Fair Employment Practice Committee for protection of minorities in war work, acted in behalf of Chinese and Filipinos, assisted the Negro Catholic Federation in the economic part of its work, and helped the War Production Board Colored representative on racial discrimination.

In the rural life field, aid was given in increasing the educational and propaganda activities of the National Catholic Rural Life Conference, which now has 75 diocesan directors and two regional directors. In the civic field, the Department was active in combatting racial discriminations.

IMMIGRATION PROBLEMS

Under situations which "were constantly changing" and the exercise of rigid wartime control over immigration and emigration by the Federal Government, the N.C.W.C. Bureau of Immigration "found opportunities for service which closely paralleled" its work of previous years.

The joint activities of the national office in Washington, the New York port office, and the Mexican Border office of the Bureau in five fields are summed up as follows: immigrants and emigrants, assisted at ports, 6,267; interviews in behalf of migrants and other aliens, 80,774; communications, 60,604; assistance to clergy, religious, candidates, and others, 2,624; assisted with naturalization, 1,459. The total daily summary of work included 56,075 cases, including separate handling of a case, and 61,621 persons.

CHURCH STATISTICS

Catholics in the United States, Alaska, and the Hawaiian Islands number 22,945,247 according to the *Official Catholic Directory* for 1943. The total represents an increase of 389,005 over the previous year. Catholic Chaplains serving men in the armed forces number more than 2,000 according to the *Directory's* list which is dated Feb. 1, 1943. This includes some 400 auxiliary chaplains. The 1943 *Directory* records the number of clergy as 36,970, and the total number of parishes and mission churches as 18,976.

The number of seminaries decreased by 10 to a total of 193, with 16,838 seminarians, or 707 fewer, now studying for the priesthood. Universities and colleges for men total 131, a decrease of nine. Several large Catholic universities and colleges have also been taken over, in whole or in part, for training purposes by the War and Navy departments.

The *Directory* shows current figures on welfare institutions as follows: 316 orphanages with 38,456 children; homes for the aged, 183 and Catholic hospitals, 726. The 86,905 converts reported for 1943 were 4,818 more than in the preceding year.

ANNIVERSARY OF THE ESTABLISHMENT OF APOSTOLIC DELEGATION

Jan. 24, 1943 was the fiftieth anniversary of the establishment of the Apostolic Delegation in the United States. The Apostolic Delegate is the representative of the Pope to the Church in the United States, being sent here to facilitate the relations between the dioceses and the Holy See. Back in 1893, when the Apostolic Delegation was first established, the first Delegate, Cardinal, then Archbishop, Satolli, had come to the United States to represent Pope Leo XIII at the old Chicago World's Fair. While here, the Delegation was established, and he was appointed the first Delegate.

In the early years of the Delegation, the residence and office were in a small house near the present Union Station at Washington. The Delegate and one priest-secretary did all the work. As the years passed and the Church in the United States grew and the staff increased, the Delegation moved twice, each time to larger quarters. There are now four permanent priest-secretaries and three others who assist.

The present Delegate, Archbishop Amleto Giovanni Cicognani, came to this country ten years ago. The ordinary course of his work is indicated, in part, by the fact that six new archbishoprics and ten new dioceses were created during these years. He has himself consecrated 14 of the Bishops and has installed all of the Archbishops in the newly created archbishoprics.

THE PAPACY

The proximity of actual warfare to the Vatican was emphasized by the fact of the bombings of Rome on July 19 and Aug. 13, the occupation of Rome by the Nazis on Sept. 9, and the bombing of the Vatican itself on Nov. 5. Dispatches gave evidence that the regular activities of the Holy See continued to the extent possible. Two Encyclicals (letters to the Church throughout the world) were issued during the year; the first, setting forth the doctrine of the Mystical Body of Christ, was dated June 29, and the second, dated Sept. 30, urged the reading and study of the Scriptures as a remedy for the evils of our time.

Among the important addresses of Pope Pius XII were the message to 20,000 Italian workers received in Vatican City on June 15; a radio address "To those Hands Hold the Destinies of Afflicted Humanity" given on the fifth anniversary of the beginning of the war; and the Christmas Eve Message in which His Holiness expressed the hope "that this may be the last war Christmas" and adjured statesmen, in the forthcoming peace, to respect the rights of all peoples and nations, however small or weak.

Acta Apostolicae Sedis, official organ of the Holy See, whose circulation had been interrupted in many parts of the world by the war, was again made available in the Western Hemisphere by publication and distribution of a facsimile edition by the National Catholic Welfare Conference. Beginning on Sept. 15, four issues were distributed by N.C.W.C., and it is hoped that publication may continue regularly each month for the duration of the war.

THE EASTERN CHURCHES

By E. R. Hardy, Jr.

General Theological Seminary, New York

THE ORTHODOX FEDERATION

On March 25, 1943 Governor Dewey of New York signed an act incorporating an Orthodox federation, to be known as the Federated Orthodox Greek Catholic Primary Jurisdictions in America. The ceremony and accompanying celebrations were attended by Archbishop Athenagoras and other hierarchs. The original members of the Federation were the American bodies representing the jurisdictions of Constantinople (Greek), Antioch (Syrian), Moscow (Russian), and Serbia. The organization of the Federation was largely brought about by the efforts of a group of Orthodox clergy and laity of Buffalo, N. Y.

On Aug. 22 the hierarchs of the four groups met at Buffalo and joined in the celebration of the Divine Liturgy; at this time the Romanian and Ukrainian Churches also joined the Federation. Offices have been opened in New York. It is hoped through the Federation to gain more recognition for the Orthodox Church as such in relations with the Government and with other religious bodies. The difficulty, not yet wholly solved, of securing the separate classification of Orthodox soldiers in the Army and Navy is one of the matters to be taken up.

HELLENIC (GREEK) ORTHODOX CHURCH

The Rev. Gerasimos Elias was consecrated Bishop of Chicago on Feb. 14, 1943 by Archbishop Athenagoras and his assistant bishops. He is a graduate of the Holy Cross Theological School at Jerusalem, ordained in 1908, and served as a parish priest at Alexandria and as a chaplain in the Balkan War; he came to this country in 1917 and served various parishes, that at Savannah, Ga., since 1933. Bishop Germanos of Nyssa has devoted himself largely to the work of the Church in the Greek communities of the South; on Sept. 1-3 he held a conference of southern clergy at Atlanta.

The Theological School at Pomfret, Conn., graduated its second class and received an entering class of 19. It is also the educational headquarters of the Archdiocese; school books for Greek and religious instruction published there were used in 1943 throughout this country and in Australia, South Africa, and the Belgian Congo. The Euchologion (priest's service book) was also published, for the first time in this country. There was some decline, however, in the schools of the Archdiocese, due largely to the demands of the war on the younger generation. In the fall a campaign for school extension was started, setting the goal of organizing instruction wherever there are five or more Greek children. Work for soldiers has mainly taken the form of arranging visits of priests to camps and entertainment of service men by parishes. The appointment of some Greek Orthodox chaplains has now, however, been secured.

In New York and Chicago the Greek Communities have been federated, thus making possible radio programs and other joint activities. In the Cathedral at New York a special celebration was organized for Orthodoxy Sunday, on March 14th, a day which celebrates the restoration of the sacred icons and the end of the iconoclastic controversy in 843. On this 1100th anniversary there was a Solemn Liturgy in the morning, and later in the day Vespers, in which representatives of other Orthodox Churches as well as the Greek took part, followed by a historical address by Professor Grégoire of Brussels and New York. At Easter over $10,000 was raised in the annual collection for the Patriarchate of Constantinople.

ORTHODOX CHURCHES ABROAD

The most striking event of 1943 in the Orthodox world was the filling of the Moscow Patriarchate, vacant since the death of Patriarch Tikhon in 1925. During the summer Marshal Stalin indicated his willingness to have the election held. This was not done, presumably owing to present conditions, by a General Sobor of clergy and laity, such as that which conducted Tikhon's election in 1918, but by a smaller Council of Bishops which met at Moscow, chose the Metropolitan Sergius, and on Sept. 12 installed him as Patriarch. Sergius, born in 1865 and long one of the more forward-looking leaders of the Russian Church, had been locum-tenens of the patriarchal throne since 1927.

During September the Archbishop of York visited Russia as a representative of the Church of England, and was present at the services of the Nativity of Our Lady on Sept. 21 (Sept. 8 O.S.). The friendlier attitude of the Soviet Government to the Russian Church is a recognition of the loyalty which the Church in Russia has exhibited during the present war, and an admission of the value of religion in the present crisis of the Russian nation. Outside Russia the election of Patriarch Sergius has not, of course, been recognized by the bishops in territories under German control. In the spring an effort was made to unite the German-inspired autonomous Ukrainian Church with an older separatist Ukrainian movement, and to gain canonical status for this body through Metropolitan Dionisie of Warsaw; but this does not seem to have been successful.

In Egypt the Patriarch of Alexandria announced in an encyclical of Feb. 11 the project of founding a monastery in commemoration of the battle of El Alamein and in revival of the ancient shrine of St. Menas at that place. The Patriarch of Jerusalem bestowed on President Roosevelt the Grand Cross of the Order of the Holy Sepulchre, which was delivered by Archbishop Athenagoras on Feb. 25.

BALKAN CHURCHES

The Balkan Churches are deeply affected by the German occupation. The Greek Church has been active in organizing the distribution of relief, and Archbishop Damaskinos of Athens has been commended on several occasions for taking a firm stand against demands of the occupying authorities. Many Serbian clergy have taken an active part in support of the guerillas of both groups; the presence of a priest in the cabinet recently formed under the auspices of the partisan forces is indicative. The Bulgarians have unfortunately attempted to use their Church as an instrument for dehellenizing the Greek territories under their control, thus reviving the bitterness of the schism which has divided Bulgaria from the Greek Churches since 1873.

RUSSIAN ORTHODOX CHURCH

The greater part of the Russian Church in America is not under the jurisdiction of the Patriarchate of Moscow, represented in this country by Metropolitan Benjamin, but since 1933 has considered itself autonomous. Nevertheless the election of Sergius was received with enthusiasm by the greater number of clergy and laity, and was welcomed by Metropolitan Theophilus in an interview in *Novaya Zarya* of San Francisco on Sept. 14. On Oct. 24 Sergius was prayed for as Patriarch at the services presided over by the Metropolitan in the Pro-Cathedral in New York, and this recognition was formally approved by the Episcopal Sobor meeting later in the week. The occasion was the consecration of the altar and dedication of the church building on Second Street, New York, which had been acquired for a Pro-Cathedral and was occupied during the summer. At these services Metropolitan Theophilus was assisted by the Bishops of Jersey City, Chicago, Alaska, and Brooklyn, and the retired Archbishop Arseny.

The annual convention of the young people's organization, the Federation of Russian Orthodox Clubs, was held at the Pro-Cathedral on Sept. 4-5, and was well attended in spite of war conditions. Among other actions it raised a fund for supplies for the first Russian Orthodox chaplains in the Army. (There are now seven Orthodox chaplains in all.) Two of these are newly-ordained priests who were members of the FROC and graduates of St. Vladimir's Seminary, New York, at its commencement in June, at which it graduated the first regular class since its revival in 1938.

OTHER ORTHODOX CHURCHES

On March 1 the Serbian Orthodox Church occupied its new Cathedral on Twenty-fifth Street, New York (formerly the Episcopal Trinity

Chapel). During the year the Serbian Diocese published a volume on the *Martyrdom of the Serbs,* with a historical introduction by Bishop Dionisie.

Metropolitan Antony of the Syrian Church has been active, with some of his clergy, in promoting the organization of the Orthodox Federation. In November he joined with other Americans of Lebanese origin in protesting against the French treatment of the Lebanon Government.

The Romanian and Bulgarian Churches are temporarily under the direction of their diocesan councils, since their respective bishops have been unable to return from Europe.

ARMENIAN AND ASSYRIAN CHURCHES

On September 19 Hovsepian of the Armenian Church celebrated the 50th anniversary of his ordination to the priesthood. A Solemn Liturgy was offered in the chapel of the Presbyterian Theological Seminary in Chicago, attended by representatives of other churches as well as by many Armenian clergy and laity. Archbishop Hovsepian is now Catholicos-elect of Cilicia, the second highest position in the Armenian Church. He expects to be able to leave for Syria, where the Catholicate is now established, early in 1944, and will be succeeded in the American Prelacy by the Rev. Diran Nersoyan of the Armenian Church in London. On behalf of the Assyrian (Nestorian) Church its Patriarch Mar Shimun XXIII, now resident in Chicago, has joined the World Council of Churches through its American Committee.

JUDAISM AND JEWISH COMMUNAL AFFAIRS

By Harry Schneiderman

Editor, *The American Jewish Year Book*

GENERAL

The intensification of the nation's war effort, the unrelenting terror in Europe, and the subsequent destruction of the last vestiges of Jewish life there, have had repercussions on the activities of the American Jewish community. Organizational efforts during 1943 were directed toward full participation in national defense activities, the rescue of the destitute Jews of Europe and the further development in this country of Jewish learning and culture. Of most concern to Jews, however, was the question of an equitable and sensible program after the war which never again would leave millions of innocent victims at the mercy of brute force. It is on the establishment of a peace, based on democratic principles and permitting all groups and nations to live as free men, that all the efforts of Jewish agencies were bent.

REPERCUSSIONS TO EVENTS ABROAD

The planned extinction of the Jews in Europe having been announced and vaunted by the Nazi regime, the world learned of more and more appalling data through official and underground reports. Incomplete studies by the Office of War Information here and by the Inter-Allied Information Committee were augmented by the Institute of Jewish Affairs of the American Jewish Congress in "Hitler's Ten Year War on the Jews." This survey, based on many sources, including official law gazettes of Axis countries, disclosed that of the 8,300,000 Jews in Europe before the war, probably 3,000,000 had been killed since 1939.

So grim were the details that the voices of Jews and Christians alike were raised in shocked protest. At massmeetings, sponsored jointly by Jewish and non-Jewish groups, capacity crowds adopted resolutions condemning Nazi atrocities; a pageant, "We Will Never Die," written by Ben Hecht and performed in New York City on March 9, depicted Jewish contributions to civilization;

Jewish groups observed long periods of mourning, and the Protestant Churches announced a "Day of Intercession" for the Jews on Oct. 10.

A joint resolution introduced in Congress by Senator Alben W. Barkley of Kentucky on March 9 and adopted in the House several days later asked "that those guilty, directly or indirectly of these criminal acts shall be held accountable and punished in a manner commensurate with the offenses for which they are responsible." President Roosevelt reiterated his promise that they would be brought to justice.

Demands for more concrete steps to save the remaining Jews were made when reports of Axis massacres and protest meetings elicited no official action. Proposals ranging from feeding these innocent victims of the Nazi terror to suggestions to facilitate their admission to the United States were voiced by government officials, political parties, labor groups, non-Jewish and Jewish organizations, and the press of the country.

RESCUE PROGRAMS

Efforts by Jewish and non-sectarian groups to formulate definite rescue programs followed. A number of Jewish national organizations in the United States, including the American Jewish Committee, American Jewish Congress, B'nai B'rith, Jewish Labor Committee, American Emergency Committee on Zionist Affairs, Synagogue Council of America and others, formed the Joint Emergency Committee on European Jewish Affairs on March 19, 1943. The first major act of this group was the transmission of a memorandum to the Anglo-American Refugee Conference meeting at Bermuda in April which included proposals for negotiations with the Axis powers for the release of Jews and the creation of temporary and permanent sanctuaries and the maintenance of those released. The Joint Emergency Committee voted to dissolve itself on Nov. 5, because it was felt by a majority that the committee on the rescue of Jews from occupied Europe, established by the Interim Committee of the American Jewish Conference could effectively deal with this problem.

At the final session of the American Jewish Conference on Sept. 2, a six-point program for immediate action was outlined. It asked the democracies to issue warning that crimes perpetrated against Jews would be punished; to convene at once the Allied Commission on War Crimes; to give temporary asylum to all Jews able to escape; to guarantee those who reach Palestine the right to permanent residence there; to give financial aid and guarantees of ultimate disposition of refugees to neutral nations bordering Axis countries; to create a special intergovernmental agency to work with Jewish organizations in sending arms and supplies to Jews in Axis-dominated countries.

Exploiting the criticism evoked in this country by the failure of the Bermuda Conference to bring forth concrete rescue plans, a group of Revisionist leaders who had gained the support of many well-meaning Americans held an Emergency Conference to Save the Jewish People of Europe in New York July 20-25, 1943. This non-partisan group in turn set up a program for removing as many Jews as possible to neutral countries and to havens under United Nations control. To implement it, the United States Government was asked to cooperate with the other United Nations in creating an official agency to deal with this matter, to demand guarantees from Axis countries for the safety and the release of the Jews, and to institute some form of relief for them. The ultimate aim of this group, however, is the establishment of Palestine as a Jewish national home along Revisionist lines. The Conference's work was continued by the Emergency Committee to Save the Jewish People of Europe. It was upon the recommendation of this group that the Baldwin-Rogers resolution for the creation by the President of a commission of diplomatic and economic and military experts charged with the responsibility for immediate action in behalf of the Jews in Axis-conquered countries was introduced in Congress. Many government officials and other public figures expressed their approval of it.

OVERSEAS RELIEF

As in the past four years, the United Jewish Appeal was the unifying fund-raising instrument for the American Jewish Joint Distribution Committee (JDC), the United Palestine Appeal (UPA) and the National Refugee Service (NRS). During these years, it was announced on Dec. 27, 1943, approximately $75,000,000 were raised. The unprecedented results of the 1943 Spring phase of the campaign indicated that American Jews were prepared to assume broader obligations to insure greater relief and rescue activities.

The Joint Distribution Committee, the largest and most important of the relief agencies, issued several reports on the scope of its activities abroad. For the first half of 1943, it had allocated $5,208,400 for this purpose, constituting an increase of $1,582,090 over the amount used for a similar period in 1942. The administering of relief was much more difficult than in previous years. When the German forces overran all of France on Nov. 11, 1942, its emergency aid headquarters in Marseilles was shut down, but the JDC made arrangements for the continuation of its program through responsible local committees which were entrusted with funds and which were authorized to borrow additional necessary money from available local sources against the JDC's promise of repayment after the war. In this manner, child care, refugee aid, and other essential activities continued. Similar arrangements had to be made in Rumania and Poland where limited programs of aid were still carried on in the early part of 1943.

Simultaneously, attempts were made to bring additional relief to Jews in occupied countries by the dispatch of food packages from Switzerland and Portugal to Poland and to Terezin, a large internment camp for Jews in Czecho-Slovakia. Much was done also to give aid to refugees in Switzerland and Spain. The sum of $1,100,000 was allocated to Switzerland in 1943 for maintenance of the 6,000 persons who escaped persecutions in France in 1942 as well as of 3,000 others who had previously entered. The budget for Spain was $1,000,000, needed for the care of interned refugees and of women, children, and men of non-military age who were released from prisons and camps on that condition. Some 5,000 non-interned refugees also received aid from the JDC.

Additional problems arose with the liberation of North Africa. The Joint Distribution Committee's guarantee for immediate maintenance was essential for the release of interned Jews. Moreover, Jews still at liberty but left destitute by Nazi and Italian troops had to be given relief. Other activities, including the expenditure of $775,000 for Jewish refugees in Asiatic Russia; $200,000 for war relief purposes in Palestine; feeding 5,000 and housing many more refugees in the five JDC camps in Shanghai; an initial emergency grant of $25,000 for the aid of Danish Jews in Sweden and relief and long-range constructive aid to many of Latin America's 125,000 immigrants. In a summary report of its wartime activities issued on Sept. 3, 1943, the JDC announced that it had spent $27,857,000 to aid Jews in 52 countries in the past four years. Over 900,000 persons were aided annually, and 68,000 Jewish refugees—60 per cent of the total number who escaped the Nazis—were enabled to reach the Western Hemisphere and Palestine.

Other important overseas work was done by the Hebrew Sheltering and Immigrant Aid Society (HIAS) and its European organization, the HIAS-ICA Emigration Association (HICEM), now functioning in Lisbon. At the Society's annual convention on March 7, 1943, it was disclosed that the HICEM had succeeded in organizing and aiding the emigration of 4,750 refugees from Europe during 1942; that twice as many received various kinds of assistance and guidance prior to their departure from Europe. For this purpose, the sum of $838,150 was expended. In a second report made available in May 1943, the HICEM's "Rescue through Emigration" program was credited with enabling 125,000 Jewish refugees to leave Europe since the outbreak of the war.

POST-WAR PLANNING

Uppermost in the minds of the American Jewish community was the problem of the fate of the Jews in the post-war world. In order to arrive at a program, representative of Jewish opinion, 32 national Jewish agencies met in Pittsburgh on Jan. 24, 1943, at the invitation of B'nai B'rith, a Jewish fraternal order. The conference decided to call an American Jewish Assembly, later changed to American Jewish Conference, to formulate and implement a program. The Conference met in New York from Aug. 29-Sept. 2, and, after three days deliberation, a resolution was passed calling for the fulfillment of the Balfour Declaration and of the Palestine Mandate, "whose intent and underlying purpose was to reconstitute Palestine as the Jewish Commonwealth." It also demanded "the immediate withdrawal" of the White Paper closing Jewish immigration into Palestine on March 31, 1944, and the opening of Palestine, with authority to regulate immigration vested in the Jewish Agency for Palestine. The Conference pledged "scrupulous regards" for the rights of the Arabs, "full cooperation" with them, and "civil and religious equality" of all inhabitants before the law.

In addition to a six-point proposal for the immediate rescue of Jews (already discussed), other resolutions on the status of Jews in the post-war world were passed, asking for "a world order based on the Four Freedoms and the Atlantic Charter"; calling the United Nations' attention to the needs of Jews in liberated areas; demanding the immediate scrapping of all discriminatory legislation "including all acts of denaturalization," and asking the outlawing of anti-Semitism by international action. While all delegates were united in opposition to the British White Paper of 1939, the Jewish Labor Committee and the American Jewish Committee recorded their objection to the declaration in favor of a Jewish Commonwealth in Palestine. In accordance with the previously established right of all participating organizations to dissent, the Committee voted against the resolution.

On Sept. 2, an Interim Committee of 55 members was established to carry on Conference activities until its next session and to implement the resolutions which were submitted to Secretary of State Hull by a delegation headed by Rabbi Solomon B. Freehof. Later, at an October meeting of the Interim Committee, three commissions were created to work on the major projects of the Conference: rescue of Jews from Europe, post-war Jewish reconstruction, and Palestine. Henry Monsky and Stephen S. Wise were elected co-chairmen of the Conference.

Since the resolutions asking for the establishment of a Jewish Commonwealth in Palestine were carried and since no way was found to give expression to minority opinion, the American Jewish Committee on Oct. 24 withdrew from the Conference. In its statement on the withdrawal, the Committee made it clear that it was in full agreement with the development of Jewish life in Palestine, that it would vigorously oppose the British White Paper, but that, at the same time, it definitely opposed the Commonwealth idea. This was a reiteration of the statement issued by the American Jewish Committee at its annual meeting in January 1943.

Another statement of opposition was issued on Aug. 30 by the American Council for Judaism which had been formed in December 1942 by 90 Reform rabbis in opposition to Jewish nationalism and the creation of a

Jewish state in Palestine. It asked for Jews everywhere "only this: equality of rights and obligations with their fellow nationals." In Palestine, the Council hoped to see a "democratic, autonomous government, . . . wherein Jews, Moslems, and Christians shall be justly represented. . . ."

Other pronouncements on Jewish post-war problems were: a statement issued in February 1943, by the Synagogue Council of America, representing congregational and rabbinical organizations, stressing the need for a "new federated commonwealth of the world in which all nations must accept such limitations of absolute sovereignty as shall make possible the good of all in its constituent states"; similar pronouncements were made at a Conference on Religion in the Modern World held at Columbia University, at a convention in April of the Union of American Hebrew Congregations and at a meeting of rabbinical groups in June; a "declaration on world peace" issued on Oct. 7 by 144 leaders of the Protestant, Catholic, and Jewish faiths, and hailed as "the first American inter-faith pronouncement on world order" which asked equal rights for minorities, the oppressed, weak, or colonial people and suggested the establishment of an international organization to preserve peace.

ZIONISM

The activities of Zionist groups were concentrated on demands for a Jewish national home and the abrogation of the White Paper of 1939. This document was condemned as unjust and inhuman at the National Conference for Palestine of the United Palestine Appeal, held in Philadelphia May 1-2, 1943. When Prime Minister Churchill visited the United States in May, all Zionist groups joined in appealing to him to keep England's promise made in the Balfour Declaration, and to abrogate the White Paper. The same demands were voiced at the convention of the Zionist Organization of America which opened in Columbus, O., Sept. 11. In addition, however, the United Nations were asked to "initiate discussions with the Jewish Agency" on the role of Palestine at present and in the post-war world and "to provide the political technical and financial instrumentalities for the transfer of the maximum number of Jewish refugees into Palestine." The large Zionist organizations (Zionist Organization of America, Hadassah, Mizrachi and Poale Zion) represented in the American Zionist Emergency Council, on Oct. 3 launched a drive to tear down the "illegal wall about Palestine," namely, the White Paper, by appealing to the United States Government for direct intervention to secure its abrogation. A similar nation-wide campaign was opened at a mass-meeting held at Carnegie Hall in New York on Nov. 1 under the auspices of the Zionist Organization of America and other Zionist groups. Its appeal to President Roosevelt urging that Palestine be kept open to Jewish immigration and be reconstituted as a Jewish Commonwealth was echoed by many other Zionist groups.

Support of a Jewish Palestine, however, came from non-Jewish sources, as well. For example, the Christian Council on Palestine, organized in New York City in December 1942 by 500 Christian leaders, clergymen, and laymen of all denominations throughout the country and meeting in June 1943 in New York, adopted a resolution demanding that "an international commission, composed of competent Christian leaders be sent to Palestine to study the problems of Jews and Arabs and return with specific solutions to meet that issue in a spirit of wise and sympathetic statesmanship." Pro-Zionist resolutions were adopted by 12 state legislatures—Alabama, California, Connecticut, Florida, Georgia, Illinois, Maryland, Missouri, New York, Pennsylvania, South Carolina, and Texas. Prominent Americans and the press made favorable statements. Efforts to marshal American public opinion for a Jewish Commonwealth in Palestine were made also by the American Palestine Committee, under the chairmanship of Senator Robert F. Wagner of New York.

Funds for activities in Palestine were distributed by the United Palestine Appeal, a beneficiary of the United Jewish Appeal, to two agencies. The Keren Kayemeth (Jewish National Fund), organization for land purchases and amelioration, and the Keren Hayesod (Palestine Foundation Fund), the fiscal instrument of the Jewish Agency for Palestine, each received a grant of $2,017,500 in 1942. Some of the other groups giving financial support to Palestine were Hadassah, National Labor Committee for Palestine, General Federation of Jewish Labor in Palestine, and the American Fund for Palestinian Institutions.

JEWISH PARTICIPATION IN BOND DRIVES

The Jewish community, both individually and collectively, was very active on the military and the civilian fronts in the second year of the war. Although no compilation of figures on the number of Jewish men and women serving in the armed forces of the United States is available, the ever-growing lists of those decorated, killed, or wounded in action demonstrate beyond question that they are doing their part along with their fellow-Americans on every battlefront. To minister to their spiritual needs, 153 Jewish chaplains had joined the armed forces as of June 14, 1943.

On the home front, Jews, as all others, helped in the war loan drives, aided relief agencies (as the Red Cross), and participated in many other civilian defense activities. Since no total evaluation of their contribution can be made, it must suffice to point out some of the more outstanding facts. In November, the B'nai B'rith announced that the war bonds purchased or sold by its members to date amounted to $172,000,000. The Treasury Department's certificate of merit for the successful February war bond drive was awarded to the Zionist Organization of America whose total of sales exceeded $17,500,000. Also, at the 23rd annual convention of the Federation of Jewish Women's Organizations in New York in January, more than $200,000 in bonds was subscribed by the attending 1,500 members. In September, the Jewish War Veterans set their goal in the Third War Loan Drive at $12,000,000, and the National Council of Jewish Women purchased $15,000,000 worth of war bonds in the second and third drives.

OTHER FORMS OF THE JEWISH WAR EFFORT

Purchase of fighting equipment was another form of contribution. In March, a Curtiss Warhawk fighter, christened "Loyalty" was presented to the Army Air Force as a gift from 1,600 refugees. Mizrachi Women's Organization purchased a bomber for the Navy, and 4,000 Brooklyn members of Hadassah in May completed a campaign for $175,000 which provided the first bomber in the "Hadassah Air Armada." Also, the National Council of Jewish Women donated $10,000 in hospital equipment to the U.S. Naval Hospital at St. Albans, N.Y.

The American Red Cross, which credited the B'nai B'rith with obtaining 47,000 blood donors from the beginning of this service until Dec. 15, praised the "wholehearted and enthusiastic response" of Jews to its appeal for blood. The largest single contribution to the National War Relief Clothing Drive consisting of 15,000 pounds of salvaged garments, was made by the Jewish Labor Committee, and to assist in the National War Fund campaign, a Council of Jewish Organizations was formed, with Joseph M. Proskauer, president of the American Jewish Committee, as honorary chairman.

As part of the Government's effort to conserve and to increase the production of food, the National Council of Jewish Women, in a "Victory Harvest Program," converted its 75 summer camps into farms. In response to calls for help to overcome farm labor shortage, Aleph Zadik Aleph, Junior B'nai B'rith, began recruiting Jewish youth for summer work. A total of 150 students of the Chicago Hebrew Theological College also answered the call. To train New York high school boys for this task, the Jewish Agricultural Society offered courses at a New Jersey training farm.

As for service to Jewish and, partly, non-Jewish members of the armed forces and veterans of this war, the Jewish Welfare Board, with almost 300 workers serving over 600 military establishments in continental United States and outlying points, has been continuing with its splendid job. It has provided soldiers with religious services, hospitality, entertainment, and other recreational activities. To meet the needs of men in distant camps, committees have been organized in the larger cities of the country through joint efforts of the large national women's organizations —National Council of Jewish Women, National Federation of Temple Sisterhoods, National Ladies' Auxiliary, Jewish War Veterans of the U.S., Hadassah, etc., which constitute the Women's Division of the Jewish Welfare Board. Their local units have formed Serve-A-Camp Committees which gather recreational equipment and other articles needed and send food for distribution among the men, regardless of creed.

Other Jewish organizations, such as the B'nai B'rith, which has equipped 267 recreation centers at military bases during the year ended March 15, 1944 and the National Council of Young Israel, which on Aug. 17, 1943 opened a drive for $100,000 for religious work among soldiers, concentrated part of their efforts on this work.

RELIGIOUS ACTIVITIES

The successful prosecution of the war was the concern also of the religious bodies. In addition to participating in projects, such as bond sales, civilian defense, first aid, and the Red Cross blood bank drive, they centered their work on the preservation and extension of religious liberty, the function of religion in maintaining both morale and morality, and, as already discussed, on appraising the problems of a just peace.

The Union of Orthodox Jewish Congregations was successful in its efforts to organize Orthodox groups, thus bringing its total membership to 300 congregations. Moreover, some uniformity heretofore lacking in orthodox Jewish education was achieved by the adoption by some 250 orthodox schools of the curriculum for Hebrew schools published the year before. The same trend was followed in the establishment of a Department of Synagogue Activities with functions to advise rabbis and lay leaders of orthodox synagogues on congregational problems and the publication of bulletins containing suggestions for the observance of holidays and festivals.

As part of its program for the year, the United Synagogue of America, conservative group, carried on the work outlined in its conference on "Mobilization for Victory" held in New York City early in December 1942. The Committee on the United Synagogue Mobilization for Victory and the War Problems Committee initiated a number of special activities to meet the needs of children and adolescents arising from the war. A monthly publication, *The Jewish School and Democracy,* was founded, and the Junior Young Peoples League, a national synagogal youth organization, was established. Also, children in the United Synagogue member congregations were organized for Victory Farm Volunteers and the United States High School Victory Corps Cadets programs. Activities for adults included the organization of five seminars for rabbis, teachers, and principals, the nation-wide program of adult education carried on by the Jewish Theological Seminary through the National Academy of Adult Jewish Studies, and the establishment of a graduate school of the Institute for Religious Studies for clergymen of all faiths. Further plans for chaplains, Jewish education, and comprehensive religious programs at military posts were made at the forty-third annual convention of the Rabbinical Assembly of America, meeting in New York June 21-24, 1943.

Reform congregations under the direction of the Union of American Hebrew Congregations, too, geared their work to war needs and activities. Some of it dealt with the distribution of literature in military camps; the launching in May of a popular monthly magazine *Liberal Judaism,* a "journal for the support of progressive Judaism and for the advancement of the spiritual and cultural ideals of Israel and mankind"; the publication of educational and pre-school literature and the establishment of an American Institute for Jewish Studies to stimulate youth and adult education. Several sessions of the thirty-eighth biennial council of the Union which met in New York April 2-4, were devoted to similar topics. Among them were the function of religion and of Judaism in particular in time of war, rescue of the Jews of Europe, the guaranteeing of the rights of Jews in all countries after the war, opposition to the abrogation of the Crémieux decree in North Africa, and others. At the fifty-fourth convention, June 22-27, the Central Conference of American Rabbis passed resolutions appealing to the British Government to withdraw the White Paper, condemning the passage by Congress of the Smith-Conally bill (anti-strike) which "may jeopardize the orderly democratic procedures which alone must be depended upon to adjust our difficult economic relationships," and severely criticizing the race riots in Detroit. An unprecedented feature of the Conference was a joint meeting with the conservative group, Rabbinical Assembly of America, on June 23, the theme of which was "The Centrality of the Synagogue in American Jewish Life."

The lay and rabbinical leadership of Orthodox, Conservative, and Reform Judaism is unified in the Synagogue Council of America which, under the presidency of Dr. Israel Goldstein, took action on behalf of all three groups. Important among the Council's civic activities was its intervention with Governor Thomas E. Dewey of New York against the Young-Milmoe Bill authorizing regular school sessions on Saturday to shorten the school term so as to enable students to work on farms or food factories.

EDUCATION AND CULTURE

Jewish educational and cultural institutions considered Jewish values in their relationship to the ideals for which America and the United Nations are fighting this war. At the Jewish Education Session, held by the American Association for Jewish Education in January 1943 in Cleveland, the consensus of opinion of the speakers was that "Jewish education is a most essential activity in the war-time program of Jewish community effort." In keeping with this idea, much effort was expended in the erection of new buildings for school purposes; local bureaus of Jewish education extended their services to affiliated congregational schools and Yiddishist schools and offered guidance to youth agencies; courses, lectures, seminars, and teachers' conferences were arranged, notably by the Jewish Education Committee of New York; emphasis was laid on the education of children of pre-school age by the establishment of all-day nursery schools, Hebrew kindergartens, and classes for young children; progress was made in education on the secondary level, in the direction of enrollment, the number of graduates from Hebrew high school departments, and the teaching of Hebrew as a modern language in public high school.

Among new educational publications were aids to teachers, workbooks for pupils, and textbooks and pamphlets on the elementary and adult levels. *The Jewish School and Democracy,* issued by the United Synagogue of America, furnishes teaching material on the United Nations' war aims. *A Model Program for the Talmud Torah* was issued by the Union of Orthodox Hebrew Congregations. Other excellent material was published by the Union of American Hebrew Congregations' Commission on Jewish Education.

The youth sections of the various Jewish organizations, too, have adapted their activities to the war. Thus, Aleph Zadik Aleph, B'nai B'rith youth organization, stressed the study of post-war problems. The Hillel Foundations and Counselorships, also sponsored by B'nai B'rith, almost doubled in number to serve the Jewish trainees at the large universities offering military and technical courses. Jewish Centers under the guidance of the Jewish Welfare Board, offered farm training and courses dealing with the role of Jewish youth in the war effort and in post-war reconstruction. Seminars for professional workers in the field and a new publication, *Leadership Training in the Jewish Center,* were launched for this purpose. Zionist youth organizations, as Habonim (Labor Zionist Youth), the Hechalutz (training youth for pioneering tasks in Palestine), the American Zionist Youth Commission, which sponsors the National Young Judaea, and others offered training and guidance in their respective fields.

Outstanding among the cultural activities in national organizations were the publications of the Jewish Publication Society of America, the Jewish Historical Society, and the Hebrew Publication Society of Palestine and America; the study course on post-war problems, published by the Research Institute on Peace and Post-War Problems of the American Jewish Committee; the adult education projects of the National Academy for Adult Jewish Studies under the auspices of the Jewish Theological Seminary of America; the publication and educational propaganda of the Zionist Organization of America and of the Histadruth Ivrith whose task is the dissemination of Hebrew language and culture in America; the National Council of Jewish Women's emphasis on contemporary Jewish affairs, and the educational campaign carried on by the Jewish Welfare Board and its Army and Navy Service Division.

SOCIAL WELFARE

As a result of war conditions, Jewish social agencies were increasingly called upon to cope with such problems as the dislocation of workers in non-essential industries; readjustment of families whose breadwinners had joined the armed forces; rehabilitation of men discharged from the armed forces; housing shortages; high cost of living and provision for the health and welfare of children, especially those whose mothers are employed in war industries. For this purpose, the number of permanently organized local central fund-raising bodies, as listed in the 1943 *Directory* of Jewish Federations, Welfare Funds, and Community Councils, increased to 305. The communities in which they are operating represent about 95 per cent of the estimated total Jewish population of the United States. Most of the local welfare funds serve also a number of surrounding smaller communities.

The question as to how the Jewish war relief agencies and the local welfare fund were to join in the campaigns of the National War Fund and the local War Chests without destroying their own work, was solved at the January 1943 General Assembly of the Council of Jewish Federations and Welfare Funds. The Assembly as well as the United Service Appeal, the major beneficiary of the local welfare funds, expressed themselves in favor of merging forces with the local War Chests. The final decision, however, was left to the local communities, many of which decided to follow this course. They usually joined as an entity, including within the War Chest the Jewish war relief agencies as well as most of the other local, national, and overseas programs.

The response of the communities to appeals for support was liberal indeed. Federations and welfare campaigns generally exceeded their goals and gained substantial increases over funds raised in the previous year, both in contributions received and the number of donors. Reports to the Council of Jewish Federations and Welfare Funds indicated that affiliated agencies in 128 communities allocated for 1942-1943 a total of $30,946,000. Of this sum, $13,468,000 was for local communal activities and $13,588,550 for regional, national, and overseas activities.

REFUGEE SERVICE

Since the war curtailed the immigration of refugees to the United States to 4,705 during the period July 1, 1942 to June 30, 1943, as compared with 10,608 the year before, the National Refugee Service was able to direct its energies to tasks hitherto partly neglected. In its annual report on Jan. 16, 1944, it listed the following as "milestones of progress in 1943": the placement in jobs of practically every able-bodied refugee—even those previously considered unemployable—who had not yet found work; the reduction of its relief roll to a practically irreducible residue, consisting chiefly of the aged and the incapacitated; participation in the removal of barriers which had existed against employment of aliens on war production jobs and expediting the naturalization of enemy aliens.

OCCUPATIONAL ADJUSTMENT

Occupational shifts of Jews from non-essential civilian to war industries were somewhat facilitated by efforts to end racial and religious discrimination in employment. The President's Committee on Fair Employment Practices, under the new chairmanship of Mgr. Francis J. Haas, Dean of the School of Social Science of the Catholic University, was able to record some progress. As the Provost-Marshal-General stated on May 27, war contracts now contain a clause forbidding inquiry into or report of the race, creed, or color of the applicants for employment, except with the permission of the F.E.P.C. Many protests were sent to the President when Controller General Lindsay C. Warren ruled in October that the Presidential order forbidding racial or religious discrimination by government contractors was "directive" rather than "mandatory" and could be disregarded where vital goods or services could not be obtained otherwise. A letter of Nov. 6, 1943 from the President to Attorney General Francis Biddle, stating that the executive order requiring anti-discrimination clauses in all government contracts is "mandatory," not merely "directive," clarified the issue. The States of Connecticut and New York augmented this action by appointing on Aug. 4 and 5, respectively, committees to investigate charges of racial discrimination in employment.

The Coordinating Committee of Jewish Organizations Dealing with Employment Discrimination in War Industries, established in 1941 for the purpose of coordinating the programs of local and national Jewish organizations and of conveying to the public and the Government special employment problems of Jews, also continued to function. In addition, Jewish vocational service agencies tried to facilitate occupational readjustment by establishing information bureaus on job and training opportunities, setting up consultation centers for small business men seeking employment, devising programs for the adjustment of those entering war industries, and expanding guidance programs for youth of school age. Moreover, the Jewish Occupational Council's work in larger communities has resulted in special programs to assist the War Manpower Commission in recruiting Jewish workers for war production.

INTERGROUP RELATIONS

Overt anti-Semitic activities, temporarily suspended after our declaration of war owing to the concentration by pro-fascist elements on protestations of loyalty to the war effort, were resumed when the country became accustomed to its role in the global war. Attempts to create disunity by sowing hatred and suspicion were counteracted by the Department of Justice by the arrest of actual foreign agents and saboteurs and the indictment of American fascists.

On Jan. 4, 1943, 28 individuals, indicted earlier by the Federal Grand Jury in Washington on charges of conspiracy designed to promote disloyalty and to undermine the morale of the armed forces of the United States, were re-indicted. To their names were added those of George Deatherage, Mrs. Lois de Lafayette Washburn, Frank W. Clark, Paquita de Shishmareff, Frank K. Ferenz, *The New York Evening Enquirer, Inc.* as well as 12 publications and 13 organizations listed as "agencies employed."

These indictments were exploited by anti-democratic elements to spread anti-Semitic propaganda. Well-known anti-Semites, such as Gerald L. K. Smith, publisher of *The Cross and the Flag,* George E. Sullivan and Rev. Harvey H. Springer, came to the defense of the indicted by declaring that they are victims of a campaign to discredit "decent" Americans. Unfortunately, some of the statements made in Congress lent support to this campaign. Representative John E. Rankin, for example, charged in the House that the Department of Justice was turning into a "Gestapo for the persecution of white gentiles." Representative Fish introduced a bill which, if passed, would have made it impossible to convict the individuals awaiting trial, and, in speaking against the War Security Act, which would have expedited the trial and punishment of American fifth columnists, said: "We want no Americans indicted under this law for mere criticism . . . or maybe because they are anti-Communist or even anti-Semitic. Even that is not a crime under the Constitution of the United States." Representative Martin Dies, who was accused by Representative Jerry Voorhis of having suppressed facts on anti-Semitic agitation in his investigation of un-American activities, denied in Congress that anti-Semites were necessarily pro-Nazi and that fascism was necessarily anti-Semitic.

At the same time, extreme anti-New Dealers attacked more and more frequently such members or advisers of the Administration as Felix Frankfurter, Bernard M. Baruch, and Judge Samuel I. Rosenman. C. David Ginsburg, general counsel of the Office of Price Administration was forced to resign his post, despite strong praise from the President, because of heavy pressure by some Congressmen who accused him of being a "draft dodger."

Since they received such strong support from the isolationist bloc in Congress, the indicted men are continuing with their propaganda. Winrod and Garner are distributing material asking "Christian" Americans for financial aid; publications, such as Winrod's *Defender,* Mrs. Elizabeth Dilling's *Patriotic Research Bureau News Letter,* and Gerald L. K. Smith's *The Cross and the Flag,* are still being circulated, in many cases through the mails as second-class matter.

It is true that the Department of Justice has succeeded in convicting such outstanding seditionists as George Sylvester Viereck, leading Nazi agent, and Horace J. Haase, editor of *America's Hope* which attacked the United Nations, the Administration's foreign policy, and called for a negotiated peace, but fascist, anti-Semitic groups still at liberty are continuing to undermine our democratic institutions. Anonymously distributed mimeographed, typed, or printed sheets are used to spread the Nazi-created lie that "World Jewry" is responsible for the war, that Jews are draft-dodgers, that they are war profiteers, and that they are the most frequent violators of Office of Price Administration regulations.

There can be little doubt that frequent physical attacks by hoodlums on Jewish residents in Boston and later also in New York City, as well as the defacement of synagogues and cemeteries in New York City, Chicago, Bridgeport, and Hartford, were inspired by this propaganda, aimed at sowing disunity in a nation at war against fascism.

Anti-Semitic activities, however,

were offset by numerous expressions of goodwill toward Jews by Congressmen, community, and national leaders, and by groups and individuals of all faiths who are making every effort to strengthen and develop interfaith harmony. These expressions were highlighted by the strong condemnation of the Nazi persecution of the Jews, and by a "Day of Compassion" observed in Christian churches throughout the country mentioned in another part of this review.

Outstanding work in this field was done by the National Conference of Christians and Jews which operates committees in 3,000 communities. During March, 1943, Religious Book Week featured a list of 200 religious books including 50 Jewish and 50 goodwill books for reading by the lay public. A program of education in more than 145 military centers, with audiences totaling more than 2,400,000 men, was started under the direction of Andrew W. Gottschall with the assistance of the Chief of Chaplains of both the Army and the Navy; 3,000,000 pieces of goodwill literature were distributed through the Chaplains. The Conference also organized the Commission on Educational Organizations, under the direction of Herbert L. Seamans, which will work with colleges, secondary, and primary schools, teaching training groups, textbook publishers, and religious educators to promote intercultural goodwill, and the Commission on Religious Organizations which is carrying the Conference's program into local churches, synagogues, seminaries, and other religious institutions.

Similar efforts in this direction were the Conference on Christian Bases of World Order, sponsored by Ohio Wesleyan University and the Board of Foreign Missions of the Methodist Church, which called for a greater effort on the part of churches to bring about a better understanding of the Jewish people through Sunday schools and other educational means; the publication by the Catholic University of America of a textbook series for Catholic parochial schools, known as *Faith and Freedom* which stresses religious and racial tolerance and is described as "primarily focused against anti-Semitism"; the creation in New York City in June of the Burton J. Furman Memorial Fund to further better relations between Jewish and non-Jewish students in colleges and universities in the metropolitan area.

PERIODICAL PUBLICATIONS

Advance (Congregational)
14 Beacon Street, Boston.
America (Jesuit)
329 W. 108th St., New York City.
American Hebrew
48 West 48th Street, New York City.
Catholic Action
1312 Massachusetts Ave., N.W., Washington, D. C.
Catholic Review
21 West Franklin Street, Baltimore.
Catholic World
401 West 59th Street, New York City.
Christendom
297 Fourth Ave., New York City.
Christian Advocate
740 North Rush St., Chicago.
Christian Century
95 Madison Ave., New York City.
Christian Herald
419 Fourth Ave., New York City.
Christian Leader (Universalist)
16 Beacon Street, Boston.
Christian Register (Unitarian)
25 Beacon Street, Boston.
Churchman, The (P.E.)
425 Fourth Ave., New York City.
Church Management
1900 Euclid Ave., Cleveland, O.
Commonweal, The (R.C.)
386 Fourth Ave., New York City.
Contemporary Jewish Record
386 Fourth Ave., New York City.
International Journal of Religious Education
203 N. Wabash Ave., Chicago.

Living Church (P.E.)
744 North Fourth Street, Milwaukee, Wis.

Lutheran Herald
425 S. Fourth Street, Minneapolis, Minn.

Presbyterian Tribune
Martin Bldg., Utica, New York.

Reconstructionist, The
15 West 86th Street, New York City.

Religion, A Digest
2401 Military Road, Arlington, Va.

Watchman-Examiner, The (Baptist)
23 East 26th Street, New York City.

Religious Digest
234 Pearl St., N.W., Grand Rapids, Mich.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

NATIONAL CHURCHES

American Baptist Historical Society, Chester, Pa.

American Unitarian Assn., 25 Beacon St., Boston, Mass.

Board of Direction of the General Synod of the Reformed Church in America, 156 Fifth Ave., New York City.

Christian Science Church Reading Room, 537 Fifth Ave., New York City.

Congregational Christian General Council, 287 Fourth Ave., New York City.

Free Church of America, 25 Beacon St., Boston, Mass.

Freethinkers' of America, Inc., 370 W. 35th St., New York City.

Friends' General Conference of the Religious Society of Friends, 1515 Cherry St., Philadelphia, Pa.

General Conference of Seventh-Day Adventists, 6840 Eastern Ave., N.W., Takoma Park, Washington, D. C.

General Council of the Presbyterian Church in the U. S. A., 156 Fifth Ave., New York City.

Greek Orthodox Church, 10 E. 79th St., New York City.

National Lutheran Council in America, 39 E. 35th St., New York City.

National Spiritualist Assn., 600 Penn. Ave., S.E., Washington, D. C.

Northern Baptist Convention, 152 Madison Ave., New York City.

Protestant Episcopal Church, 281 Fourth Ave., New York City.

Society for Ethical Culture of New York, 2 W. 64th St., New York City.

Theosophical Society in America, Covina, Calif.

Union of American Hebrew Congregations, 32 W. 6th St., Cincinnati, Ohio.

Union of Orthodox Jewish Congregations of America, 305 Broadway, New York City.

United Lutheran Church in America, 39 E. 35th St., New York City.

United Synagogues of America, Broadway and 122nd St., New York City.

Universalist General Convention, Inc., 16 Beacon St., Boston, Mass.

Vedanta Society, 34 W. 71st St., New York City.

Volunteers of America, 34 W. 28th St., New York City.

INTERNATIONAL ORGANIZATIONS

Association for the Promotion of Christian Unity, Mission Bldg., Indianapolis, Ind.

Baptist World Alliance, Bates College, Lewiston, Me.

Central Bureau of Evangelical Churches in Europe, 297 Fourth Ave., New York City.

Committee on Friendly Relations Among Foreign Students, 347 Madison Ave., New York City.

Ecumenical Methodist Conference, 720 Omaha Bank Bldg., Omaha.

International Assn. of Daily Vacation Bible Schools, 297 Fourth Ave., New York City.

International Association for the Promotion of Liberal Christianity and Religious Freedom, 25 Beacon St., Boston, Mass.

International Congregational Council, 287 Fourth Ave., New York City.

International Council of Religious Education, 203 N. Wabash Ave., Chicago, Ill.

Lutheran World Convention, 39 E. 35th St., New York City.

Near East College Association, Inc., 50 West 50th St., New York City.

Religious Educational Association, 59 E. Van Buren St., Chicago, Ill.

Universal Christian Council on Life and Work, 297 Fourth Ave., New York City.

Western Section of Alliance of Reformed Churches Throughout the World Holding the Presbyterian System, 226 W. Mowry St., Chester, Pa.

World Conference for International Peace Through Religion, 70 Fifth Ave., New York City.

World Student Christian Federation, 347 Madison Ave., New York City.

World's Christian Endeavor Union, 41 Mt. Vernon St., Boston, Mass.

World's Sunday School Assn., 156 Fifth Ave., New York City.

INTERCHURCH ORGANIZATIONS

American Bible Society, Park Ave. and 57th St., New York City.

American Sunday School Union, 1816 Chestnut St., Philadelphia, Pa.

American Tract Society, 21 W. 46th St., New York City.

Chaplain's Aid Assn., 10 E. 52nd St., New York City.

Church Peace Union, 70 Fifth Ave., New York City.

Community Church Workers of U. S. A., 77 W. Washington St., Chicago, Ill.

Conference of Theological Seminaries and Colleges in the U. S. A. and Canada, Gettysburg, Pa.

Epworth League of the Methodist Episcopal Church, 740 Rush St., Chicago, Ill.

Federal Council of the Churches of Christ in America, 297 Fourth Ave., New York City.

Fellowship of Christian Co-operation, 2929 Broadway, New York City.

Free Church of America, 25 Beacon St., Boston, Mass.

National Council of Protestant Episcopal Churches, 281 Fourth Ave., New York City.

National Religion and Labor Foundation, 304 Crown St., New Haven, Conn.

Synagogue Council of America, 1181 Broadway, New York City.

AUXILIARY ORGANIZATIONS

Catholic Church Extension Society of the U. S. A., 360 N. Michigan Ave., Chicago.

Catholic Guardian Society, 485 Madison Ave., New York City.

Catholic Protective Society, 477 Madison Ave., New York City.

Church League for Industrial Democracy, 135 Liberty St., New York City.

Community Church Workers of the U. S. A., The, 1302 Chicago Temple, 77 W. Washington St., Chicago, Ill.

Lord's Day Alliance of the U. S., 156 Fifth Ave., New York City.

National Conference of Christians and Jews, 381 Fourth Ave., New York City.

Woman's Christian Temperance Union, 1730 Chicago Ave., Evanston, Ill.

Woman's National Sabbath Alliance, 156 Fifth Ave., New York City.

Young Men's Christian Assn., 347 Madison Ave., New York City.

Young Men's Hebrew Assn., 220 Fifth Ave., New York City.

Young Woman's Christian Assn., 600 Lexington Ave., New York City.

Young Woman's Hebrew Assn., 220 Fifth Ave., New York City.

RELIGIOUS PUBLICATIONS

American Baptist Historical Society, Upland Ave., Chester, Pa.

American Baptist Publication Society, 1701 Chestnut St., Philadelphia, Pa.

American Bible Society, Park Ave., & 57th St., New York City.

American Tract Society, 21 W. 46th St., New York City.

Chicago Tract Society, 343 S. Dearborn St., Chicago, Ill.

Gideons, 202 S. State St., Chicago, Ill.

National Testament and Tract League, 200 Kellog Bldg., Washington, D. C.

Pocket Testament League, The, 156 Fifth Ave., New York City.

Religious Educational Assn., 59 E. Van Buren St., Chicago, Ill.

Society for the Propagation of the Faith, 462 Madison Ave., New York City.

MISSIONARY

Agricultural Missions Inc., 156 Fifth Ave., New York City.

American Board of Commissioners for Foreign Missions, 14 Beacon St., Boston, Mass.

American Mission to Lepers, Inc., 156 Fifth Ave., New York City.

Christian and Missionary Alliance, 260 W. 44th St., New York City.

Committee of Reference and Counsel, 156 Fifth Ave., New York City.

Council of Women for Home Missions, 297 Fourth Ave., New York City.

Home Missions Council of North America, 297 Fourth Ave., New York City.

International Missionary Council, 156 Fifth Ave., New York City.

Missionary Education Movement of the United States and Canada, 156 Fifth Ave., New York City.

National Council of Jewish Women, 1819 Broadway, New York City.

Near East Relief, 17 W. 46th St., New York City.

Student Volunteer Movement for Foreign Missions, Inc., 156 Fifth Ave., New York City.

Woman's Union Missionary Society, 45 Astor Place, New York City.

PART SIX

SCIENCE—APPLICATION AND PRINCIPLES

DIVISION XVIII

MATHEMATICS AND ASTRONOMY

MATHEMATICS*

By Joseph F. Ritt
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IMPACT OF WAR ON APPLIED MATHEMATICS

The impact of the war continues to be strongly felt in the realm of applied mathematics. The belated realization of the importance of applied mathematics in war, and of the relative weakness of this country in applied mathematics as compared with pure mathematics, has led to considerable discussion, and to significant steps to improve the situation. Progress in thinking along these lines has been well summarized in the *American Mathematical Monthly* and in the *American Scholar* by R. G. D. Richardson, who describes the recent establishment of the School of Mechanics at Brown University as a step toward remedying the situation; by H. B. Phillips, who tells in the first mentioned journal of similar steps taken at the Massachusetts Institute of Technology; and by T. von Karman in the *Quarterly of Applied Mathematics*.

Perhaps the most important outcome of the increased emphasis on applied mathematics was the establishment in 1943 of the new journal, *Quarterly of Applied Mathematics*, under the sponsorship of the Brown University School of Mechanics. This is the first English language journal devoted exclusively to this field.

APPLIED MATHEMATICS PANEL

Several other universities have strengthened their work in applied mathematics, among which Ohio State University may be mentioned. The Federal Government has given formal recognition to applied mathematics as a distinct field by the creation of the Applied Mathematics Panel as a part of the National Research Council. The purpose of the Panel is to render advice on how applied mathematics may be most useful to the various research projects of the NRC. In the Army and Navy training programs, instruction in applied mathematics has been given, at various levels, on an unprecedentedly large scale. The meteorology program may be mentioned particularly in this connection.

ADVANCES IN APPLIED RESEARCH

Although the schism between pure and applied mathematics is supposed to have widened within recent decades, it is a notable fact that, under the war's stimulus, a number of the leading pure mathematicians have been carrying on researches in applied mathematics with signal success.

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* The writer is indebted, for valuable assistance, to Professors J. J. De Cicco, N. Jacobson, P. W. Ketchum, P. A. Smith, and A. Wald.

Since publication is considerably restricted, the announcements of many important advances must await the war's termination. In the papers which have appeared, there is a strong tendency to cluster about certain problems of obvious importance to the war effort.

The appearance in the theory of electrical circuit oscillations of nonlinear ordinary differential equations of the second order has led to important advances in such nonlinear problems by a group of independent investigators which include K. O. Friedrichs and J. J. Stoker in the *Quarterly of Applied Mathematics,* N. Levinson in the *Journal of Mathematics and Physics* and in the *Proceedings of the National Academy of Sciences,* S. Lefschetz in the last mentioned journal, J. Shohat in the *Journal of Applied Physics,* and C. R. Wylie in the *Journal of the Franklin Institute.*

Another group of investigators has attacked the difficult and almost virgin field of compressible flows in fluid dynamics, being stimulated by unsolved questions in connection with the shock waves which accompany the supersonic velocities encountered in ballistics and in the study of airplane propeller tips. Papers in this group include those of L. Bers and A. Gelbart in the *Quarterly of Applied Mathematics,* S. Bergman in the *Proceedings of the National Academy of Sciences,* M. G. Scherberg in the *Journal of the Aeronautical Sciences,* and M. H. Martin in the *Annals of Mathematics.*

Problems in radio transmission have led to investigations of antenna characteristics published by L. Brillouin in the *Quarterly of Applied Mathematics* and by L. La Paz and G. A. Miller in the *Proceedings of the Institute of Radio Engineers.*

The lack of an adequate theory of the oscillations of suspension bridges, which was forcibly emphasized a few years ago by the Tacoma bridge failure, has been filled by H. Reissner in the *Journal of Applied Mechanics* and S. Timoshenko in the *Journal of the Franklin Institute.*

ABSTRACT ALGEBRA

In the theory of simple rings, E. Artin and G. Whaples effected a considerable simplification of the known theory by making use of a new concept of "analyticity" of a transformation in a ring. In his paper "Automorphism rings of primary groups," R. Baer gave a characterization of rings of this type. He showed that the group of automorphisms of such a ring is identical with the group of projective transformations of the underlying group. A general survey of the theory of rings was given in N. Jacobson's book, *The Theory of Rings.* A number of previously unpublished results appear in this volume. An extension of the theory of p-adic fields was given in O. F. G. Schilling's paper "Normal extension of relatively complete fields." A type of Hilbert theory for these fields and a study of the types of Galois groups that occur for such fields was made. A problem concerning the splitting fields of an algebra was considered by Schilling and S. MacLane in "Groups of algebras over an algebraic number field." This investigation gave rise to an interesting question in the theory of groups.

As in the past several years, there has been considerable interest in nonassociative algebra. An important contribution to the theory of Lie and associative algebras was G. Hochschild's "Semi-simple algebras and generalized derivations." Among other results, it contains a characterization of semi-simple Lie algebras and semi-simple associative algebras by means of properties of the derivations of these algebras into algebras containing them. A Lie theory for p-adic linear groups analogous to the classical theory for Lie groups was given by R. Hooke in "Linear p-adic groups and their Lie algebras." A type of conjugacy for maximal nilpotent subalgebras of a Lie algebra was established by C. Chevalley in "An algebraic proof of a property of

Lie groups." A contribution to the theory of Lie algebras over a modular field was made by N. Jacobson in "Restricted Lie algebras of characteristic p II." An investigation of general non-associative algebras was made by A. A. Albert in a series of papers: "Non associative algebras" I and II, and "The radical of a non-associative algebra." The main contribution of the first of these papers is the definition of a new concept of isotopy that is broader than that of isomorphisms. As the author shows, isotopism implies isomorphism for the interesting types of associative algebras. In the second paper, Albert gave a construction and investigation of a class of non-associative central simple algebras.

A number of new applications of the theory of algebras to group theory was given by R. Brauer and his followers. Of particular interest is Brauer's paper, "On permutation groups of prime degree, and related classes of groups." The modular representation of the symmetric group and of the full linear group were investigated in "On the modular representations of the symmetric group" by R. M. Thrall and C. J. Nesbitt, and "On the decomposition of modular tensors" by Thrall.

A study of the crossed characters that generalize ordinary characters of a group was made in "A theory of crossed characters" by R. Baer.

THEORY OF NUMBERS

Among the papers in the field of analytic number theory may be noted D. H. Lehmer's "Ramanujan's function." This is devoted to a verification of a conjecture of Ramanujan's for the first 46 primes. A type of identity for the partition function is proved in J. Lehner's paper "Ramanujan's identities involving the partition function for the moduli 11^a." D. H. Lehmer's paper "The properties of the coefficients of the modular invariant" may also be mentioned. In the field of algebraic numbers an important simplification of class field theory was given by G. Whaples in "Non-analytic class field theory."

COMPLEX VARIABLE

In the *American Journal of Mathematics,* C. L. Siegel presented a far reaching theory of automorphic functions of several variables. The fundamental domains of the functions and the associated discontinuous groups were studied by penetrating methods. In the same journal, H. Rademacher, using methods due to Ahlfors and Grunsky, found an improved upper estimate of Landau's constant. Also D. C. Spencer presented an interesting identity dealing with the quantities appearing in the work of Nevanlinna and Ahlfors.

In the *Duke Journal,* Joachim Weyl applied the classic methods of Nevanlinna to the investigation of curves whose coordinates are expressed parametrically by exponential sums. In the same journal, R. M. Robinson studies functions meromorphic in a ring. Points are assigned at which a function is required to have zeros and other points are required to be poles. Bounds are assigned for the function on the two circles of the ring. The paper determines a bound for the modulus of the function at any given point. The *Duke Journal* also contains a paper by A. Wintner which establishes the almost periodicity of the logarithm of the zeta function on the line of abscissa unity.

REAL VARIABLE

In the *Transactions* of the American Mathematical Society, R. Kerschner investigated functions of several variables which are continuous in each variable separately. His paper presents theorems which describe the set of points at which the function has conjoint continuity in all variables.

A. C. Schaeffer has continued the work of Polya, Wiener, and Hille on the oscillation of functions. Schaeffer proves, for instance, that if a function has derivatives of all orders in an interval and if there is an integer which exceeds, for every derivative, the number of changes of sign of that derivative, the function is analytic.

DIFFERENTIAL EQUATIONS

R. E. Langer has presented, in the *Transactions* of the American Mathematical Society, a theory of boundary problems of the second order and of highly irregular type.

DIFFERENCE EQUATIONS

In the *Annals of Mathematics*, W. C. Strodt, using methods of great boldness, has established the existence of analytic solutions of a general class of non-linear algebraic difference equations.

R. H. Cameron and W. F. Martin, in the *Transactions* of the American Mathematical Society, studied linear difference equations of infinite order with arbitrary real spans. Under suitable conditions on the coefficients, the existence of solutions is established.

CONTINUED FRACTIONS

In the *Annals of Mathematics*, W. Leighton and W. J. Thron have found new convergence criteria for continued fractions built with complex numbers. Another investigation of such fractions is that of E. D. Hellinger and H. S. Wall.

CALCULUS OF VARIATIONS

Writing in the *Annals of Mathematics* with George Ewing, Marston Morse has continued his profound researches on the topological aspects of variation problems.

LINEAR SPACES

H. L. Hamburger, in the *Annals of Mathematics,* developed a new criterion for determining whether a self-adjoint transformation has a pure point spectrum. This is of special importance for linear operators. In the same journal, F. J. Murray and J. Von Neumann showed that factor rings with continuous dimensionality are not all isomorphic. E. R. Lorch, in the *Transactions* of the American Mathematical Society, investigated the reducibility of transformations in a general vector space.

DIFFERENTIAL GEOMETRY

Silberstein has considered the five-point relations for elliptic and hyperbolic spaces which are analogues of the Cayley determinant relations for five points in ordinary space. Grove has studied transformations of two rectilinear congruences. Kasner's problem on the limit of the ratio of arc to chord has been extended by Comenetz to curves on surfaces. Lane has written a sequel to his book on the projective differential geometry of curves and surfaces. Martha H. Williams has investigated the geometry of ruled surfaces immersed in a euclidean four-space. Kasner and De Cicco have worked on various problems connected with trajectories in a field of force. Mary E. Ladue, continuing Kasner's work on horn angles, has calculated invariants of orders up to the fifth.

FOUNDATIONS OF GEOMETRY

H. Buseman's book, *Metric Methods in Finsler Spaces and in the Foundations of Geometry,* a new volume in the *Annals of Mathematics Studies,* provides an introduction to the metric geometry of manifolds. Buseman also has investigated spaces in which any two points of the space determine a unique geodesic. Baer has unified the theory of projective spaces with that of finite abelian groups. Prenowitz has studied the connections between projective geometries and multigroups. Everett has proved that a geometry satisfying the first seven axioms of Artin admits a coordinate system in a certain type of ring.

ALGEBRAIC GEOMETRY

Zariski has developed systematically the fundamental concepts and theorems of the theory of birational correspondences. He has also furnished a new and simple proof of the theorem on the transformation of an algebraic surface into a surface free of singularities. Muhly has extended Zariski's researches on neighboring points. Wade has formed an irreducible system of euclidean invariants and covariants of the ternary cubic. R. P. Johnson has studied conical roulettes.

TOPOLOGY

Two fundamental concepts in topology are boundary and deformation. Those properties of a space which are based on the former are called homology properties: those based on the latter, homotopy properties. While it has long been suspected that precise algebraic relations exist between the homology characters of a space (that is, the numerical indices of its homological properties) and its homotopy characters, few relations beyond those which concern the "one-dimensional" characters were known until recently. The joint investigations of S. Eilenberg and S. MacLane have now brought to light a number of noteworthy relations in the higher dimensions. The algebraic constructions employed by these authors are of interest in themselves and constitute a contribution to the theory of commutative groups.

The precise definition of the homology characters of a space depends on the choice of a definite commutative group whose elements serve as coefficients in certain algebraic relations. By assigning coefficient groups to all the places in the space rather than to the space as a whole, N. Steenrod has created an interesting new class of homology characters. It appears likely that systematic use of these local coefficient groups will help settle certain difficult topological questions about analytic manifolds and their associated manifolds of tangents and normals.

MATHEMATICAL STATISTICS

The numerical determination of the inverse of a matrix, and of latent roots and vectors, and the numerical solution of systems of linear equations are treated by Harold Hotelling in "Some New Methods in Matrix Calculation," *Annals of Mathematical Statistics* (Vol. 14, pp. 1-34, March, 1943). In addition to reviewing applications and existing methods, the author presents new developments, particularly involving certain iterative methods. Limits of error converging relatively fast to zero are given. Discussion and errata will appear in the December, 1943 issue.

Asymptotic expansion of the distribution of the variance of independently distributed random variables giving the order of magnitude of the remainder term has been derived by P. L. Hsu in his paper "The Approximate Distribution of the Mean and of the Variance of Independent Variates," The National University of Peking, *Science College* No. 3 (pp. 1-19, September, 1942). The author gives also a simplified proof of a theorem by H. Cramer on the asymptotic expansion of the distribution of the sum of independent variates. The methods developed by P. L. Hsu seem to be suitable for the derivation of similar results for several other functions of independent variates which are of importance in statistics.

A well known and much discussed problem in statistical literature is that of setting confidence limits for the difference of the means of two normal populations when the ratio of the variances of the populations is unknown. An interesting contribution to the solution of this problem has been made by Henry Scheffe in his paper "On Solutions of the Behrens-Fisher Problem Based on the t-Distribution," *Annals of Mathematical Statistics* (pp. 35-44, March, 1943). Considering only statistics which can be represented as a ratio of a linear form of the observations to the square root of a quadratic form of the observations and which have the t-distribution with the highest number of degrees of freedom, the author determines that one which leads to a confidence interval with minimum expected length.

The problem of estimating the unknown coefficients in a system of linear stochastic difference equations is treated by H. B. Mann and A. Wald in their paper "On the Statistical Treatment of Linear Stochastic Difference Equations," *Econometrica* (Vol. 11, pp. 173-220, October, 1943). The limiting joint distribution of the maximum likelihood estimates of the unknown coefficients is obtained when the number of observations approaches infinity.

ASTRONOMY

By Rupert Wildt
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MEETINGS AND HONORS

On May 28-30, 1943, the American Astronomical Society held its 70th meeting at Cambridge, Mass. Dr. Harlow Shapley, director of the Harvard College Observatory, was elected the new president of the society. Dr. Joel Stebbins, the retiring president, delivered an address on "Copernicus and Modern Revolutions," paying tribute to the great astronomer on the 400th anniversary of his death and of publication of his "De revolutionibus orbium coelestium." Under the leadership of the Kosciuszko Foundation, an organization devoted to the furthering of cultural and intellectual relations between Poland and the United States, numerous colleges, universities and scientific bodies all over the country conducted Copernican memorial exercises. The climax of these activities came on May 24 with a meeting in Carnegie Hall, New York City, presided over by Dr. Shapley, national chairman of the Copernican Quadricentennial Committee. Jan Ciechanowski, ambassador of Poland to the United States, attended, and Dr. Shapley read a personal letter from President Franklin D. Roosevelt. The American Astronomical Society met again on Nov. 5-7, 1943, at Cincinnati, O., where astronomers participated in the celebration held at the University of Cincinnati in commemoration of the 100th anniversary of the founding of the Cincinnati Observatory. The last phase of this meeting consisted of a symposium, dealing with "Dwarf Stars and Planet-like Companions."

Sir Harold Spencer Jones, Astronomer Royal of Great Britain, was elected Foreign Associate of the National Academy of Sciences, Washington, D. C., and was also made an Honorary Member of the American Astronomical Society. The Academy's Henry Draper Medal was awarded to Dr. Ira Sprague Bowen of the California Institute of Technology for his work in astronomical physics. The University of Arizona conferred an Honorary Doctorate of Science on E. C. Slipher of the Lowell Observatory (Flagstaff, Ariz.), a distinguished student of the surface features of the planets. Posthumous honors of an unusual kind have been bestowed upon three great names in American astronomy by the U. S. Maritime Commission. Three Liberty ships, built by the California Shipbuilding Corporation at Wilmington, Calif., were named for George Ellery Hale, Simon Newcomb, and Maria Mitchell.

Dr. Frank Schlesinger, director emeritus of the Yale University Observatory and past president of the International Astronomical Union, passed away on July 10, 1943. He was an outstanding authority on the application of photography to the determination of precise stellar positions, and he is generally acknowledged as having been a pioneer in the photographic measurement of stellar parallaxes. Under his initiative, the Yale University Observatory opened a branch station at Johannesburg, South Africa, which is equipped with a 26-inch refractor.

ASTRONOMY AND THE WAR

The greatly reduced attendance at scientific meetings reflected the participation of large numbers of astronomers in the war effort, both in military and civilian capacity. In a few cases, the places of astronomers on leave of absence have been temporarily filled by visiting scientists from several Latin-American countries. The numerous astronomers engaged upon wartime duties in and around

Washington, D. C., arranged for monthly meetings on the premises of Science Service, where they discussed informally current scientific problems. In order to enable all astronomers who have relinquished their peacetime activities to maintain some contact with their science, the Harvard College Observatory has supplied them with copies of the "Monthly Astronomical News Letter." This publication is edited by Dr. Bart J. Bok on behalf of the Office of War Information and the State Department, and is regularly distributed, through the United States embassies, to astronomers in the countries of the United Nations and in all neutral countries. The difficulties in the diffusion of scientific news from this country, impaired by censorship and lack of normal communication facilities, are thus partially overcome.

The Committee for the Distribution of Astronomical Literature, set up by the American Astronomical Society, has taken charge of the circulation of the few copies of research journals reaching this country, often with a delay of a year or even more, from the neutral countries and the Axis nations. The contents are regularly abstracted and circulated in mimeographed form among the American observatories. At practically all colleges and universities astronomers devoted much time to the teaching of pre-navigational and pre-meteorological courses. A special teachers' conference dealing with war-training problems has become a regular feature of the meetings of the American Astronomical Society.

SOLAR ACTIVITY

During 1943, solar activity was at its lowest, with the expected minimum of the sunspot cycle being perhaps one year away. On May 16, a large group of sunspots appeared at an unusually high southern latitude (—41°). These spots definitely belonged to the new sunspot cycle, which ordinarily begins a year or two before the old one ends. The year brought two partial eclipses of the moon, an annular eclipse of the sun, visible only at sea in the southern Indian Ocean and off the south coast of Australia, and a total solar eclipse on Feb. 4-5. The central track of this eclipse crossed the North Pacific war zone. For a considerable distance it ran close to the chain of the Aleutian Islands, and at sunset it ended in the interior of Alaska. No scientific observations of this eclipse appear to have been undertaken.

COMETS

The comet 1942_8 (Whipple) became a conspicuous naked-eye object during the first three months of 1943, reaching a maximum brightness of about $3\overset{\mathrm{m}}{.}8$. When its path crossed the familiar constellation of the bowl of the big Dipper, at the end of February, the comet forced itself upon the attention even of a casual observer. On April 8, Miss Oterma, at the Turku (Finland) Observatory, discovered her third comet, which received the name of 1943a; it remained telescopic.

Another new comet was discovered, on Sept. 10, by Diamaca at Bucharest (Rumania). War conditions prevented the rapid diffusion of these new comets, and on Sept. 18 the comet was spotted independently by an American amateur astronomer, Leslie C. Peltier, of Delphos, O.; it now bears the name Comet Diamaca-Peltier. A third new telescopic comet was announced on Nov. 27 by H. van Gent, of the Union Observatory, at Johannesburg, South Africa. In addition, several periodic comets were reobserved during their 1943 apparition; none of these was a conspicuous object.

The orbits of Comet 1943a, computed by Cunningham and Thomas and by Herbig and McMullin, are remarkable for their small eccentricity and inclination, and it may be anticipated that it will be possible to follow this comet throughout its orbit (period 8 years). The first one of this type discovered was the periodic comet Schwassmann-Wachmann (1925 II), which has been observed year after year ever since its perihelion passage in 1927. It has puzzled astronomers by its unexplained enormous changes in brightness and appearance.

Comet 1943a will be interesting to watch for possible similar outbursts. The orbital elements of this comet place it in the zone of minor planets and associate it with the Hilda-group. It has been suggested that this association is more than fortuitous, and that Comet Oterma may be a minor planet. The chief obstacle to such an identification consists in what is generally believed to be the basically different physical constitution of comets and minor planets.

NOVAE

Nova Aquilae 1943 reached its maximum light of about 6th magnitude around the end of April, but at that time was not noticed by astronomers anywhere. C. Hoffmeister, in Germany, discovered the nova on Sept. 5, when he inspected photographic plates of the Aquila region taken at earlier dates. The news of the discovery reached this country with considerable delay, *via* Denmark and Sweden, and S. Gaposchkin was then able to reconstruct the light-curve of the nova with help of the Harvard collection of photographic plates. A few spectra of the nova have been found on the McCormick spectral survey plates.

This may be the place to mention a highly interesting piece of historical research concerning a famous nova of the past. After the recent identification of the Crab nebula with the remnants of a supernova of 1054 A. D., described in Chinese chronicles, W. Baade and R. Minkowski have studied another galactic supernova, *viz.*, Nova Ophiuchi 1604, known also as Kepler's nova. A reconstruction of the light-curve of this star was undertaken by Baade, relying upon contemporary records of competent observers.

Fortunately, the nova appeared close to Jupiter and Mars, whose approaching conjunction many astronomers were watching. The proximity of the two planets facilitated estimates of the brightness of the nova, which reached $-2^{m}25$ at maximum. The form of the light-curve, which covers a period of nearly a year, before the nova became too faint for naked-eye observations, leaves no doubt that this star was a supernova of the type I. Of particular interest is the comparison of this light-curve based upon European observations, with the description of the apparition of this "guest star" in the Chinese records of the Ming dynasty. The agreement is as excellent as could be desired, proving that the Chinese records, whenever a specific date is given, were based upon careful observations.

This conclusion is highly gratifying in view of the fact that the reconstruction of the history of the supernova of 1054 had to lean heavily upon Chinese sources. A search for the hypothetical nebulous remnant of the supernova of 1604 led to the discovery, by Baade, of a small patch of emission nebulosity, which is believed to be a part of the gases ejected during the outburst. Unfortunately, the area in which this nebulosity is located is heavily obscured by interstellar matter, so that a determination of the distance and luminosity of the supernova must be left to future investigations. Minkowski obtained two spectrograms of the nebulosity, which closely resemble the spectrum of the Crab nebula. The high radical velocities measured seem to admit only of one explanation, namely, that this nebulosity is part of an expanding nebula and actually a remnant of Kepler's nova.

PLANETS OUTSIDE THE SOLAR SYSTEM

The question whether some of the fixed stars may not be attended by bodies similar to the planets of the solar system has always stirred human imagination. It is understandable, therefore, that the daily press gave prominence to the reputed discovery by K. Aa. Strand, at the Sproul Observatory (Swarthmore, Pa.), of an invisible, planet-like companion to the bright double star 61 Cygni. While other double stars have been known to have invisible companions, manifesting their existence by the gravitational effects they exert upon the orbits of the bright components, the case of 61 Cygni is unusual for the small mass (0.016 times the mass of the sun) of the dark companion, which is only about 16 times as massive as Jupiter, the largest planet. In the binary system of 70 Ophiuchi, too, there may exist an invisible companion of comparably small mass, according to D. Reuyl and E. Holmberg.

Further discoveries of similar bodies may be anticipated from the intensified study of proper motions and double star orbits by photographic precision methods. It does not seem impossible that such an "invisible" companion may at some future time be discerned as a very faint star even by direct observation, either visually or by photography. In the meantime it is of distinct interest to inquire what can be inferred from current astrophysical theories as to the properties of such a planet-like body.

The following analysis of this problem was given by H. N. Russell. A planet-like companion, hereinafter called C, of the mass $M = 0.016$, in units of the solar mass, would have a minimum radius of the order of that of Saturn, if it consisted of "cold" matter that has been deprived of all the heat energy it can lose (so-called degenerate state of matter at absolute zero). Its maximum radius is more difficult to estimate; probably 10 solar radii is the right order of magnitude. At this other extreme, and even at much smaller radii, the internal constitution of C would be quite different from that of the majority of the coolest and densest stars, the dwarf stars of spectral type M; the surface of C most probably would be covered by dense clouds and it would be dark, *i.e.* the heat flux from the interior of the star would not be sufficient to maintain a surface temperature of about 400° centigrade, the minimum temperature at which a body begins to shine visibly in the dark. Viewed from the primary star by its reflected light, C would be a respectably bright planet, even at the minimum radius. At the other extreme, radius of C equal to 10 solar radii, the visual magnitude of C at the distance of 61 Cygni, for an observer here on earth, would be approximately +18.6. On these extremely favorable assumptions, C would be just observable by the biggest telescopes, provided that it were possible to obscure entirely the light of the primary star, only $0''.6$ away.

It is practically certain that C is much larger, compared to its primary, than any body in the solar system, and that its internal constitution resembles more that of the ordinary dwarf stars than the interior of Jupiter or Saturn. Although C may be feebly self-luminous, there is no doubt that the light of the primary reflected by C's cloud-covered surface surpasses immensely its own luminous radiation. It was not until two decades ago that astronomers realized Jupiter and Saturn had cold surfaces. Up to that time these planets had been thought of as self-luminous "semi-suns." Hence it appears to be well within the bounds of traditional terminology to call the new companion of 61 Cygni a planet.

STELLAR SPECTROSCOPY

The spectrographic study of the stars occupies so prominent a place in the programs of many observatories that it is impossible to give an adequate brief report on these activities. The papers singled out for review deal with certain novel developments, but no justice can be done here to the incessant labors of spectroscopists who are engaged upon measuring radial velocities or classifying the spectra of numerous faint stars, projects that are of the highest value to the progress of astronomical science, judged from the long-range point of view.

O. Struve and A. W. Hiltner have discovered most puzzling variations in the contours of the absorption lines of the star Epsilon Ursae Majoris. In 1931 and 1934, Guthnick, in Germany, announced and discussed periodic changes in the line intensities of this star. The K line of ionized calcium varies with a period of 5.0887 days, according to Guthnick, and this same period accounts satisfactorily for the three minima observed by Struve and Hiltner in 1943. When Ca II is weak, nearly all other lines are appreciably strengthened and, moreover, have that broadened appearance which is usually attributed to rapid axial rotation of the star. In general, these changes resemble those observed in the spectrum of α^2 Canum Venaticorum and of similar A type stars.

A series of high dispersion spectrograms obtained by Struve and Hiltner with the coudé spectrograph of the McDonald Observatory, reveals a periodic doubling of numerous absorption lines. Counting in days from the epoch of the Ca II minimum, all lines are single, though broadened, until about phase 0.82 day. Between phases 1.36 and 1.59 days many lines are double, but thereafter they become single again (phase 1.93—2.81 days). Then follows a second stage of doubling between phases 3.65 and 3.70 days. At phases later than 4.48 days, the lines are found single again, until through the next minimum of the Ca II intensity. The star has been believed to be a spectroscopic binary, following Ludendorff and Guthnick, and in such a system periodic doubling of lines on account of orbital motion might conceivably be expected, but the coudé spectrograms rule out the binary hypothesis, as far as the varying structure of the lines is concerned, because not all lines become double, but only some.

In particular, the doubling is not related to the intensity of the line, as might happen in a spectroscopic binary with incomplete resolution of the components. Further, the doubling is not confined to any one element, and there is no obvious relation between the occurrence of doubling and the multiplet structure of the lines. On the whole, Cr II shows doubling more often than Fe I, but some Cr II lines remain single. The total width of the lines appears to be remarkably constant throughout the cycle, but the degree to which doubling occurs is very different for different lines. At present it is impossible to give a unified picture of these phenomena, and it is with great reserve that Struve and Hiltner advance a general explanatory suggestion, namely that the observed doubling may be a combination of Doppler effect, resulting from axial rotation, and of some unspecified physical effects.

C. T. Elvey and H. T. Babcock have made a beginning with studying the spectra of variables of the U Geminorum type. Little is known concerning the physical processes underlying the variations of this class. At minimum, or normal, light these stars have a continuous spectrum with few or no absorption lines. Hydrogen, helium, and Ca II appear as wide emissions, H being pronounced, while He and Ca II are often quite faint. Quartz optics reveals the Balmer continuum in emission. In the absence of absorption features, it is impossible to classify these spectra according to standard criteria, but crude color classes have been estimated by comparing the intensity distribution in the continuous spectrum with that of stars of known spectral type. All stars, at minimum light, had colors corresponding nearly to spectra of class G. Some of the better observed ones were put down as similar to dG5. At maximum light the spectra change enormously, with emission lines in most cases disappearing.

In many of the stars the spectrum is continuous, while others show faint and very wide, diffuse absorption lines of hydrogen, which look as if they were produced by high speed axial rotation. If this surmise is correct, it would appear that the rotational velocities are much higher than would be allowed from stability considerations. The change of energy distribution in the continuum at maximum light is conspicuous. It represents a marked rise in temperature. The stars which have the greater amplitudes in brightness seem to have also the greater amplitude in temperature; their colors are similar to that of B stars, while those with lesser amplitude resemble that of A or early F stars.

INTERSTELLAR MATTER

During recent years the identification of the absorption lines produced by interstellar matter has been nearly completed. More detailed investigations of the interstellar lines are now being undertaken, in order to determine the spatial arrangement, radial velocities, and internal motions of the interstellar gas clouds. W. S. Adams used the coudé grating spectrograph at the 100-inch telescope on Mt. Wilson for a study of the structure of the interstellar H and K lines of ionized calcium, as observed in the spectra of 50 bright stars ranging in spectral type from O6 to A2. The high dispersion (2.9 A/mm) makes the interstellar H and K lines, remarkable for their sharpness and narrowness, stand out clearly upon the widened and diffuse stellar H and K lines.

More than 80 per cent of the stars observed showed double or multiple interstellar lines, indicating the existence in the line of sight of distinct clouds of interstellar gas differing in radial velocity. There is a great variation in the complexity of the interstellar lines according to the area of the sky under observation. Stars in the direction of Perseus and Scorpio generally show single lines, but in Orion, Sagittarius, Cygnus, and Lacerta the lines are usually complex. While the stars nearest to the galactic plane display the greatest complexity, on the whole, there are some notable exceptions. Triple lines are found in Rho Leonis at galactic latitude +54°, and at galactic latitude −46° Pi Aquarii has double lines. Since in both these stars the interstellar lines are of moderate intensity only, relatively thin absorbing clouds are indicated at these high latitudes.

As one would expect, stars close to one another in the sky in most cases show the same structure of the interstellar lines and similar intensities in the corresponding line components. A striking exception is formed by the stars 66 and 67 Ophiuchi, in which the intensities of the two components are reversed. The prevailing sharpness and narrowness of the individual components attests to the absence of turbulent internal motions in these clouds, and also suggests that in the few cases of fairly broad H and K lines the width is due to unresolved structure. Moreover, a comparison of the radial velocities of the different components permits some tentative conclusions regarding the general distribution of these gaseous clouds. For instance, in the direction of the brighter stars in Perseus there appears to be an extensive cloud with a residual velocity of +5 km/sec, while an additional, thinner, and probably smaller cloud is projected upon Xi Persei.

The distribution of interstellar clouds appears to be particularly complicated in the constellations of Cygnus and Orion. Remarkably high residual velocities were found in a few cases: +40 km/sec for a cloud in front of the two neighboring stars Mu and 15 Sagittarii, and +41 km/sec and +60 km/sec for two clouds revealed by lines in the spectrum of HD 199478 in Cygnus. Many of the stars listed, in addition to the H and K lines, show some of the fainter interstellar lines attributed to Ca I, Fe I, CN I, CH I, and CH II, but in no star has it been possible to measure any of these lines double. This is quite in accord with what could be expected from the relative intensities of the several components observed in the absolutely much stronger H and K lines.

Of particular interest is the marked reversal of the intensity of the lines of CH I and CH II in different stars, disclosing large differences in the degree of ionization of the interstellar clouds. More recently Adams has observed interstellar lines in the spectra of Alcyone and of eight other bright stars in the Pleiades. The principal feature of interest is the presence in two of the stars, 21 and 23 Tauri, of the interstellar lines of CH II, while CH I and ionized calcium are completely missing. All the other stars have the interstellar H and K lines. The fact that such different interstellar lines are observed in neighboring stars again illustrates the diversity in the physical conditions prevailing in the interstellar gas clouds and perhaps the limited dimensions which some of the clouds seem to have.

An examination by W. W. Morgan of the stars with spectral types earlier than B5 in the Orion region has brought to light a novel feature of the distribution of interstellar matter. All the B stars, down to the faintest that could be reached with the 40-inch Yerkes refractor, show the broad interstellar absorption band around λ4430, which was discovered by Beals and Blanchet some years ago and still awaits identification. The intensity of this band, as already found during earlier work at Yerkes, is closely correlated to the reddening of the B stars resulting from the continuous absorption (scattering) by interstellar dust. Morgan's recent work reveals the surprising fact that this band does not appear in late O stars, but only in the B stars, though they may be closely adjacent in the sky. Apparently the O stars have some sort of influence on the material producing the band, either driving it away by radiation pressure, or perhaps dissociating it.

J. Stebbins and A. E. Whitford described a new photo-electric photometer, which makes it possible to measure (with the 60-inch Mt. Wilson reflector) the colors of stars as faint as the 9th visual magnitude. Six different groups of wavelengths, with centers ranging from λ3500 to λ10300, were isolated by suitable color filters, and the colors of 69 stars of spectral type O and B, displaying varying degrees of space reddening, were analyzed for the determination of the law of selective absorption. It has been known for some time that the continuous interstellar absorption coefficient varies approximately as 1/λ. The new observations of Stebbins and Whitford are of such high precision that the deviations from the 1/λ law could be evaluated quantitatively. They were found to be quite small, less than 0.2 magnitudes over the entire range from λ3500 to λ10300. These results will now permit to test, and to distinguish between, the several theoretical predictions of the interstellar absorption coefficient, which are based upon different assumptions as regards the size and chemical constitution of the interstellar dust particles. Moreover, the law of selective absorption turned out to be the same for all directions in the galaxy, indicating a marked spatial homogeneity of the interstellar dust.

STELLAR DYNAMICS

In the line of his earlier studies of the fluctuations in the gravitational, field of a stellar system, S. Chandrasekhar has analyzed the phenomenon of dynamical friction. The physical ideas underlying the concepts of dynamical friction and viscosity are quite distinct. According to common usage, "viscosity" refers to the sheering force exerted by one *element of gas* on another, whereas the "coefficient of dynamical friction" refers to the systematic deceleration, in the direction of their motion, which *individual stars* experience in consequence of the fluctuating force acting upon them. Moreover, dynamical friction describes the effect of the fluctuating field on a *star in motion,* in contrast to viscosity, a concept whose constitutive definition implies averaging over times which are long compared to the time of relaxation of the system and over spatial domains that are large compared to the mean free path of the individual particles.

Now, the coefficient of dynamical friction is of the order of the reciprocal of the time of relaxation of the system, and evidently it is only during times of the order of the time of relaxation that dynamical friction will have a chance of manifesting itself. Consequently, the effects of dynamical friction will be observed only in stellar systems with comparatively short times of relaxation, for instance in the galactic clusters, like the Pleiades, which are characterized by times of relaxation of the order of 6.10^7 years. Chandrasekhar determined the rate of disintegration of such stellar clusters, by the gradual escape of stars of high velocity, first, ignoring dynamical friction, and, second, making proper allowance for it. The rate of escape evaluated on the first basis is so great as to be incompatible with a life for the galactic clusters even of the order of 5.10^8 years. Taking into account the dynamical friction, Chandrasekhar found half-lives for the galactic clusters of the order of 3.10^9 years, and thus concluded that dynamical friction affords the principal mechanism guaranteeing the continued existence of clusters like the Pleiades over such time intervals as the generally accepted minimum age of our galaxy.

A. N. Vyssotsky and E. T. R. Williams made interesting observations concerning the structure of the galactic system, as viewed from the standpoint of a simple model based on the classical kinetic theory of gases. The mean kinetic energy of numerous dwarf M stars, which were recently discovered by Vyssotsky at the Leander McCormick Observatory without previous knowledge of their motions, solely by spectrophotometric methods, appears to be approximately the same as the mean kinetic energy of the A stars. This result supports the surmise, by no means new, that equipartition of energy might prevail among the stars of the main sequence in the Russell diagram. Of course, it is well known that the mean kinetic energy of the giant stars is considerably larger than that of the A stars. However, current astrophysical speculation concerning the energy production in the interior of the giant stars points definitely to a different time scale, and hence to a separate origin, of the giants, but among the main sequence stars, conjecturally regarded as a cosmogonically homogeneous group, equipartition of energy must be kept in mind as a possibility.

Vyssotsky and Williams have analyzed the apparent galactic concentration of the main sequence stars, *i.e.* the decrease of the spatial density with increasing distance of the volume under consideration from the symmetry plane of the galaxy. Like in a gas mixture consisting of molecules of different mass there should be reached a partial separation, according to Dalton's law, so stars of different spectral type, *i.e.* of different mass (along the main sequence), should reveal a varying galactic concentration, on the hypothesis of the equipartition of energy. The predicted effect is clearly exhibited in the material both of the McCormick and Bergedorf spectral statistics. The general conclusion of the authors is then that the galaxy in our vicinity can be represented as consisting of two imperfectly mixed systems of stars, the giants and main sequence stars, respectively.

EXTRAGALACTIC NEBULAE

The origin and the development of the spiral arms observed in many extragalactic nebulae is perhaps the most fascinating problem of cosmogony. There is no lack of theoretical speculations on this subject, but until recently all attempts at comparing the predicted patterns of spiral structure with the actually observed ones were beset with a peculiar ambiguity. The sense of rotation of the spirals, whether arms trailing or arms leading, could not be established for lack of a reliable criterion of tilt, which would help deciding which end of the minor axis of the projected image is closer to the observer. A comprehensive discussion of this observational problem by E. P. Hubble has now yielded just such a criterion, the nature of which can not be described without going into lengthy technicalities. In four spirals this criterion established the tilt without ambiguity, and in all of them the arms are trailing. It would seem permissible, therefore, to adopt as a working hypothesis the tenet that the arms are trailing in all spirals. This sense of rotation is at variance with the consequences deduced from Lindblad's widely acclaimed theory of spiral structure.

Although all extragalactic nebulae show a continuous spectrum with absorption lines approximately corresponding to G-type stars, there have been known for some time a few spirals whose central condensation has superimposed upon the continuous spectrum numerous emission lines of high excitation potential. Six of these spirals have been studied at the Mt. Wilson Observatory by C. K. Seyfert. All the lines identified, with the exception of those of hydrogen and helium, arise from forbidden transitions; and all the stronger emission lines found in typical planetary nebulae of our own Galaxy appear also in the brightest emission spirals. The profiles of the hydrogen emission lines show enormously wide wings, presumably indicating Doppler velocities up to 8500 km/sec, but the lines of the other ions are without wings. Some of the brightest emission knots in the periphery of other extragalactic nebulae have total absolute magnitudes comparable with those of the emission nuclei. Hence, the question arises whether such common emission knots also show spectra with wide lines; four such cases were investigated, with negative results. Accordingly, there appears to be no close relation between the giant diffuse nebulae indigenous to most extragalactic systems and those sporadic cases of spiral nuclei showing emission.

At the end of 1943, there appeared a long expected monograph by Harlow Shapley, *Galaxies* (Blackiston: Philadelphia), which sets forth in non-technical language the results of extensive original work undertaken over many years by the staff of the Harvard College Observatory under the guidance of Dr. Shapley.

PERIODICAL PUBLICATIONS

American Journal of Mathematics
Johns Hopkins Press, Baltimore.

American Mathematical Monthly
97 Elm St., Oberlin, Ohio.

Annals of Mathematics
Princeton University Press, Princeton, N. J.

Astronomical Journal
Yale University Observatory, New Haven, Conn.

Astrophysical Journal
5750 Ellis Ave., Chicago.

Bulletin of the American Mathematical Society
531 West 116th Street, New York City.

Duke Mathematical Journal
Duke University Press, Durham, N. C.

Journal of Mathematics and Physics
Massachusetts Institute of Technology, Cambridge, Mass.

Popular Astronomy
Carleton College, Northfield, Minn.

Publications of the Astronomical Society of the Pacific
129 Twenty-fourth Ave., San Francisco, Calif.

School Science and Mathematics
450 Ahnaip Street, Menasha, Wis.

Transactions of the American Mathematical Society
531 West 116th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Astronomical Society, Dearborn Observatory, Evanston, Ill.

American Mathematical Society, 531 W. 116th St., New York City.

Mathematical Assn. of America, Cornell University, Ithaca, New York.

National Academy of Sciences, 2101 Constitution Ave., Washington, D. C.

Science Service, 1719 N Street, N.W., Washington, D. C.

DIVISION XIX

ENGINEERING AND CONSTRUCTION

STRUCTURAL ENGINEERING

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GENERAL

Again this year, the war has been responsible for most of the construction; in fact, the cost of private construction of all types, war or otherwise, was lower than in any year since 1934. Many of the larger and more important or unusual structures were built for war purposes. Information concerning some of them is confidential and not available for publication at this time.

The continued shortage of steel for structural purposes has caused a proportionate increase in the use of reinforced concrete and wood, also plain concrete and other non-critical materials. By employing new methods in fabricating, forming, and erecting structures of these materials, many speed records were established for construction in 1943.

WAR CONSTRUCTION TRENDS AND SPECIFICATIONS

New construction in 1943 was above most previous years, but fell considerably below the record established in 1942. It was estimated by the Department of Commerce that the total for 1943 would amount to $7,740,000,000. Of this, public construction accounted for 79 per cent and private construction 21 per cent. The $400,000,000 spent for highway construction is the lowest expenditure for highways since the First World War. About $2,743,000,000 went for military and naval construction and $2,191,000,000 for industrial construction.

On Aug. 9, 1943, the War Production Board issued Directive No. 29, "National Emergency Specifications for the Design, Fabrication and Erection of Stress Grade Lumber and Its Fastenings for Buildings." This directive permits the same lumber to carry 20 per cent more load and provides a national engineering specification as a basis for timber design.

DAMS

General.—Construction of dams deemed essential to the war program was carried on during the year, in some cases at record breaking speed, but work was suspended for the duration on some of those that were considered of lesser importance to war production. The U. S. Bureau of Reclamation, Tennessee Valley Authority, and the U. S. Army Corps of Engineers were all actively engaged in the construction of dams, each of which would serve one or more of the following purposes: power development, irrigation, flood control, and navigation.

The Bureau of Reclamation.—Construction continued on about 20 projects and investigations were made on numerous others; however, stop-construction orders, issued by the War Production Board in October and December 1942, on projects where large amounts of strategic materials and manpower were required without benefits before 1945, greatly curtailed the construction program.

Eleven dams were under construction during the year, one of which was completed, four were under construction for the full year, and six under restricted construction, or completely stopped, by War Production Board orders. Construction work on canals and laterals was limited to those projects requiring a minimum of strategic materials. Work on power plants, switchyards, transmission lines, and substations, continued as rapidly as possible on the various authorized projects.

Gila Project, Arizona.—Construction of the Yuma Mesa distribution system was continued throughout the fiscal year. Installation of machinery in Pumping Plant No. 1 was completed during the year.

Parker Dam Power Project, Arizona-California.—Four 30,000 kilovolt-ampere generating units and the associated equipment were completed and placed in operation. Three sections of the Phoenix substation were installed and placed in operation, and work was continued on the Gila substation. The Coolidge and Tucson substations were completed and placed in operation. Three single circuit transmission lines, one 65.2 miles long from the power plant to the Bagdad Copper Corporation substation, one 48.85 miles from the Gila substation to the Drop No. 4 substation, and one 9.76 miles long from the Gila substation to the point of its connection with the Siphon Drop "B" lift transmission line, were completed during the year.

Boulder Canyon Project, Arizona-California-Nevada. — Two 115,000 horsepower generating units, Nos. A-2 and A-5, and the associated equipment were completed and placed in operation. Installation of unit N-7 and its auxiliary equipment is scheduled for completion in July 1944. An extension of the Metropolitan Water District switchboard, to permit service to the Basic Magnesium, Inc. load near Las Vegas, was completed and placed in operation. Grouting of dam abutments and foundation was continued, and considerable work was done in repairs to the Nevada spillway tunnel. A hospital will be completed before June 30, 1944.

All-American Canal Project, California.—All work under the Morrison-Knudson-Hassler contract for constructing the second 40-mile reach of the Coachella Canal was completed early in the spring of 1943. The canal was operated continuously for the delivery of water to the Yuma Project and to the Imperial Irrigation District.

Central Valley Project, California.—Construction of Shasta Dam and powerhouse was continued throughout the year. On June 30, 1943, the dam was 87 per cent complete, and two 2,500 kilovolt-ampere station service generating units were installed in the powerhouse. Two 75,000 kilovolt-ampere generating units were being installed and are scheduled for completion in March 1944. Reservoir clearing was continued and fish-control works, relocation of railroads, highways and public utilities, were completed. Work was continued on construction of Keswick Dam and powerhouse, on a restricted basis by order of W.P.B. On the Friant Division, the first 8-mile reach of the Madera Canal was completed. Total expenditures were approximately $29,604,000.

Klamath Project, Modoc Unit, California.—In cooperation with the War Relocation Authority, drains and laterals in the Tule Lake sump, west of the Great Northern Railway, were constructed.

Colorado-Big Thompson Project, Colorado.—The Green Mountain Dam and power plant were completed in May, 1943, bringing into service the first main feature of the project. The powerhouse contains two 12,000 kilovolt-ampere generating units. The 13-mile Continental Divide Tunnel should be completed in the first half of 1944.

Boise, Anderson Ranch Dam,

Idaho.—Construction of Anderson Ranch Dam was continued on a restricted basis throughout the fiscal year, and was about 35 per cent complete at the end of the year.

Buffalo Rapids Project, Montana.—Two 34.5 kilovolt transmission tap lines, 0.43 miles and 2.6 miles long, were constructed from the existing 33 kilovolt line of the Montana-Dakota Utilities Company to the Shirley and Terry pumping plants, respectively. One 600 kilovolt-ampere and one 2,000 kilovolt-ampere substations were completed for supplying power to the Shirley and Terry pumping plants. Work was continued on the construction of laterals in the Shirley and Terry units.

Sun River Project, Montana.—Work under the contract for construction of drains was completed early in the fiscal year. Other drains for the relief of water-logged lands in the Sun River Slope Division were being constructed by government forces.

Tucumcari Project, New Mexico.—Work was continued on a restricted basis, and the project was about 50 per cent complete at the end of the fiscal year. Total expenditures were approximately $344,000.

Buford-Trenton Project, North Dakota.—One 34.5 kilovolt transmission tap line, 2.4 miles long, was constructed from the existing 33 kilovolt line of the Montana-Dakota Utilities Company to the Buford-Trenton pumping plant. One 2,500 kilovolt-ampere substation was completed for supplying power to the Buford-Trenton pumping plant. All proposed canals and laterals were completed.

Altus Project, Oklahoma.—Altus dikes were completed during the year, and practically all work on the initial stage of the dam. Relocation of 3.1 miles of the Atchison, Topeka & Santa Fé Railroad was completed.

Deschutes Project, Oregon.—Work continued throughout the fiscal year on the construction of Wickiup Dam and appurtenant works. Excavation of the canal north of Crooked River was continued by government forces, and was completed about to the south edge of the area capable of being irrigated.

Rapid Valley Project, South Dakota.—Construction of Deerfield Dam continued as rapidly as possible with C.P.S. labor. The dam will supply additional water to Rapid City, badly needed because of a large increase in population due to war industries. When irrigation works are completed, the dam will also furnish a supplemental water supply for 12,000 acres of irrigated land in the valley below Rapid City.

Provo River Project, Utah.—Work on the enlargement of the Weber-Provo Diversion Canal was continued by government forces during periods when the canal was not required for diversion of water. The tunnel on the Provo Reservoir Canal, at the mouth of Provo Canyon, was lined with concrete.

Columbia Basin Project, Washington.—Two 75,000 kilovolt-ampere generating units, which were originally purchased for installation in Shasta power plant of the Central Valley Project, were transferred to, installed, and placed in operation at the Grand Coulee power plant. All associated equipment for these two units, including the 230 kilovolt transmission lines to the left switchyard near the powerhouse, was also installed and placed in operation. Work continued on the installation of three 108,000 kilovolt-ampere units, L-4, L-5, and L-6. Contract for relocation of Lincoln County roads, between Fort Spokane and Creston, was about 75 per cent complete at the end of the fiscal year. Surveys and designs for irrigation features were continued. Total expenditures were approximately $12,959,000.

Kendrick Project, Wyoming.—Work accomplished consisted of the construction of a limited number of laterals, and the placing of earth and clay lining in the canal, for the reduction of seepage losses.

Riverton Project, Wyoming.—Work was confined entirely to the construction of drains for the relief of water-logged lands. Total expenditures were approximately $47,000.

Scofield Project, Utah.—Contract for the construction of Scofield Dam was awarded in September 1943, and work is actively under way and will be in progress throughout the fiscal year. Work on relocation of a portion of the highway and the Denver & Rio Grande Railroad lying within the reservoir area will be completed during the fiscal year.

Shoshone Project, Heart Mountain Division, Wyoming.—About 700 feet of the canal, excavated through an ancient geyser basin, was lined with concrete to eliminate loss of water. With the aid of Japanese evacuees from the War Relocation Authority, Heart Mountain Relocation Center, bentonite clay lining was placed in porous reaches of the canal, and rock paving was placed below structures, to prevent erosion of the canal and lateral sections.

Shoshone Project, Power Division, Wyoming.—One 5,000 kilovolt-ampere step-up substation was completed and placed in operation near the Shoshone powerhouse. This substation is used to supply power to Shoshone, Riverton, and Kendrick Projects over the Shoshone-Thermopolis 69 kilovolt and other interconnected lines.

THE TENNESSEE VALLEY AUTHORITY

General.—During 1943 the Tennessee Valley Authority construction activities were devoted, primarily to furthering the nation's war effort by rushing to completion major hydroelectric projects. A total of 304,400 kilowatts of installed capacity was added to the TVA power system this year, consisting of eight hydro units totaling 244,400 kilowatts and one steam electric generating unit totaling 60,000 kilowatts.

The completion of the Douglas project in what is believed to be record time—12 months and 18 days after construction was started—was the outstanding accomplishment of the year. The Fort Loudoun project on the Tennessee River was closed on Aug. 2, 1943, and completion of this project makes navigation possible most of the time from the mouth of the river to Knoxville, Tenn., 650 miles upstream. Apalachia and Ocoee No. 3, the last of the four Hiwassee projects, were completed and are producing power for war industries. Construction continued on the Kentucky and Fontana projects, and additional units were installed at Wilson and in the Watts Bar Steam Plant. Construction work required to stop leakage at Hales Bar and the temporary raising of this dam are expected to be completed in 1944. Dredging for the improvement of the navigation channel in the Tennessee River has been rushed in order to make available for war use a major transportation artery, and four river terminals were constructed to facilitate that use.

Kentucky Project.—The second-stage cofferdam was completed in December 1942 and was unwatered for the third time in April, high water having made it necessary to flood the cofferdam in December 1942 and again in March. This delayed progress on the dam, and closure will not be made until the summer of 1944.

All earth and rock excavation in the second-stage cofferdam has been completed, and concreting of the spillway section in this area was started in August. Approximately 70 per cent of the earth fill for the 5700-foot long west embankment has been placed. The powerhouse is practically complete except for the installation of the generating units. Two of these units are scheduled for operation shortly after the dam is closed; and the third and fourth units, which were only recently reinstated by the War Production Board, will be completed in March and July 1945, respectively.

Hales Bar Project.—This property was acquired in 1939 from the Tennessee Electric Power Company. Because excessive leakage through the dam foundation resulted in an estimated loss of power revenue of about $35,000 annually, the Board of Directors in March 1941, authorized the construction of a tight cut-off wall and foundation grouting. Briefly, the work consists of drilling a line of intersecting 18-inch holes near the upstream face and filling them with concrete. All leakage has now been practically stopped.

The temporary raising of the dam from elevation 629.25 to 631 by means of wooden flashboards was approved by the War Production Board in September 1943, and is scheduled for completion before the end of the year. Permanent raising of the dam to elevation 634 has been deferred until after the war. Reinforcement of the river lock wall was completed in October 1943.

Fort Loudoun Project.—Delays in the delivery of spillway gates for this project made necessary the postponement of closure until Aug. 2, 1943, although the dam was ready for closure except for gates in the spring. The first lockage was made on Aug. 16; this 80-foot single lift lock is the highest of its type in the world. The first generating unit started producing power on Nov. 10, 1943; the second unit, which is all that is scheduled for construction at the present time, will go into operation early in 1944. Construction of an extension to the Fort Loudoun Dam across the Little Tennessee River, which was authorized by Congress on June 27, 1942, has been indefinitely deferred by the War Production Board.

Douglas Project.—Douglas Dam, started on Feb. 2, 1942, only three days after the President signed the Congressional authorization, was virtually completed on Feb. 19, 1943, when the dam was closed and the waters of the French Broad River were impounded in the Douglas Reservoir. A little more than a month later on March 21, 1943, the first 30,000 kilowatt generating unit was placed in commercial operation. The second 30,000 kilowatt power unit is scheduled for operation before the end of 1944.

Ocoee No. 3 Project.—The Ocoee No. 3 project, construction of which was undertaken in July 1941 as part of the second emergency supplement to the Authority's program, was completed on April 30, 1943, when the flow of the Ocoee River was diverted by the dam through the 12,990-foot power tunnel and the 27,000-kw. hydroelectric generating unit was put into commercial service.

Apalachia Project. — Apalachia Dam was closed and reservoir filling began on Feb. 14, 1943. Lining of the 42,993-foot tunnel was completed in March 1943. The first 37,500-kw. power unit went into operation on Sept. 22, 1943, and the second on Nov. 17, 1943.

Fontana Project.—Construction of the Fontana project on the Little Tennessee River was started in January 1942, and dam closure is now scheduled for the spring of 1944. When completed, this dam will be 460 feet high and contain 2,774,000 cubic yards of concrete, which will make it the fourth largest all concrete dam in the United States.

Although construction work was delayed by a large flood which overtopped the cofferdam in December 1942, the first concrete was placed in the dam on Feb. 19, 1943. With the erection in May of the second 300-foot hammerhead crane on the main dam low-level trestle, from which the first 200 feet in height of concrete are being placed, concrete placing has progressed at a constantly accelerated pace. On Nov. 1, 1,170,000 cubic yards of concrete had been placed. Erection of the main dam high-level trestle 185 feet above the present low-level trestle is in progress, and concreting from this trestle is expected to start shortly after the end of the year.

The two 34-foot spillway tunnels have been concrete lined, and the tunnel for the emergency spillway located 600 feet west of the left embankment was holed through in May. Two 67,500-kw. power units will be installed initially in the powerhouse located just below the dam. Extensive highway and railroad relocation work is proceeding in the reservoir, and reservoir clearing is practically complete.

Additions to Main River Plants.—The thirteenth and fourteenth power units at Wilson Dam were placed in commercial operation on April 22 and Nov. 21, 1943, respectively. These units are duplicates of the 25,200-kw. units Nos. 9 to 12 installed during 1942. On Feb. 8, 1943, the third 60,000-kw. steam generating unit installed in the Watts Bar Steam Plant was placed in service. Erection of the boiler for unit D, the fourth Watts Bar Steam Plant unit, was carried on throughout the year. This unit was recently reinstated by the War Production Board and is scheduled for operation in February 1945. The fourth and fifth units in the Watts Bar hydro plant are being installed and will go into service in February and March 1944, respectively.

Navigation.—In constructing a navigable channel for the entire length of the Tennessee River suitable for boats of nine-foot draft, the TVA continued its dredging program during the year in the upper reaches of several main-river reservoirs. Dredging in the upper end of the Guntersville and Kentucky Reservoirs and below Chickamauga was completed during the year, and dredging is being carried on below Fort Loudoun and Watts Bar Dams. A continuous and commercially useful channel is now available from the mouth of the river to Chattanooga, Tenn., a distance of 464 miles, and early in 1944 a depth of eight feet will be available all the way to Knoxville. The entire waterway from the mouth of the river to Knoxville, (650 miles) is expected to have a full project depth for 9-foot navigation late in 1944, with half-width channels through the shoal areas below Fort Loudoun and Watts Bar Dams.

Public-use river terminals have been completed at Guntersville and Decatur, Ala., and Chattanooga, Tenn., and the terminal under construction at Knoxville is scheduled for operation in December. These terminals, built under wartime restrictions as to critical materials and using principally wood construction, provide a connecting link between water, rail, and truck transportation systems and are expected to take care of the increase in river traffic and to encourage shipping by water whenever possible.

THE CORPS OF ENGINEERS ACTIVITIES

The civil works construction activities of the Corps of Engineers were carried on during the year 1943 on projects essential to the war effort and on the termination of projects suspended in accordance with Federal directives on wartime construction. In accordance with these restrictions, no new civil works projects were initiated by the Corps of Engineers during the fiscal year 1943, unless the essentiality of the projects was previously established. The projects under way prior to the announcement of the War Production Board order were completed as rapidly as possible where the work could be carried on without detriment to the war activities of the nation, or were brought to a safe point of suspension. In many cases the projects were redesigned or modified in scope so that partial flood protection could be provided without resulting in any loss in return on the funds previously expended on those works and without using any substantial amounts of critical materials.

The more important flood control structures which were so nearly complete that work was permitted to continue to completion during 1943, include the local protection projects for Corning, N. Y.; Ironton, O.; Lawrenceburg, Ind.; North Little Rock, Ark.; lower portion of Burbank Western Channel, Calif.; and several protective works for agricultural lands along the lower Columbia River in Washington and Oregon; and the following flood control dams were placed in operation: Franklin Falls, N. H.; Berlin, O.; Dale Hollow, Tenn., and Cottage Grove, Ore.

Two multiple purpose dams in the general flood control program of the Corps of Engineers which were determined as essential and on which work was continued during 1943 are described in the following sub-paragraphs.

DENISON AND NORFORK RESERVOIRS

Denison Reservoir is located on the Red River, approximately five miles northwest of Denison, Tex. The project provides for the construction of a rolled-fill earth dam 15,200 feet long rising 165 feet above the stream bed. The outlet works, consisting of a gate-control house and eight conduits, each 20 feet in diameter, all located on the right abutment, were completed prior to 1943. Under a continuing contract for the construction of the main dam embankment and excavation for the spillway, a total of 10,236,000 cubic yards of common and rock excavation was executed and a total of 5,926,000 cubic yards of random, pervious and impervious fill was placed. On June 30, 1943, construction of the main dam was approximately 88 per cent complete, relocation of the St. Louis-San Francisco Railway was practically complete, and relocation of the Missouri-Kansas-Texas Railway was well under way.

Norfork Reservoir is located on the North Fork River above its confluence with the White River near Norfork in Baxter County, Arkansas. The project includes the construction of a concrete gravity dam 2,624 feet long at the top and about 220 feet in maximum height. The dam will consist of a spillway section 568 feet long located above the existing river channel and two non-overflow sections contiguous thereto and extended to the abutments. Operation during the year under continuing contract included placing of 673,000 cubic yards of concrete and 934,000 pounds of reinforcing steel. Construction of the dam was 74 per cent complete on June 30, 1943.

NEW FLOOD CONTROL PROJECTS

The flood control projects determined essential to the war and on which work was initiated during 1943, include local protection works for Prattville, Ala. and Tulsa, Okla., and the Mosquito Creek Dam and Reservoir project, Ohio. This dam, located on Mosquito Creek, nine miles above the junction of the creek with the Mahoning River at Niles, O. is a rolled-fill earth structure 6,100 feet long at the top and rises 47 feet above the river bed. When completed and placed in operation, this structure will provide substantial low water regulation and flood control in the highly industrialized valleys of the Mahoning and Beaver Rivers.

The spring floods of 1943 caused considerable damage to flood control structures at numerous locations throughout the United States. Under authority previously available to the Department for emergency repairs supplemented by an expenditure of $10,000,000 authorized by the Emergency Flood Control Act approved July 12, 1943, considerable work was accomplished by the Corps of Engineers during 1943 consisting of repair, restoration, and strengthening of existing levees and other flood control structures threatened or destroyed by the spring floods. Although damages from these floods were widespread throughout the country, the major portion of the damages were confined to river basins in the middle western areas.

NAVIGATION PROJECTS

St. Lucie Spillway, Florida.—Construction of the spillway to aid navigation on the St. Lucie River and Canal was completed June 3, 1943.

Floodgates on the Gulf Intracoastal Waterway, Texas.—Construction of sector type gates on the Brazos River Crossing of the Gulf Intracoastal Waterway to prevent shoaling of the waterway during times of flood on the river was completed during July 1943. Two gates were constructed at this crossing, one on the east and one on the west side, together with a control house and a power control and lighting system for each flood-gate. Construction of similar floodgates at the Colorado River crossing of the Intracoastal Waterway was 85 per cent completed December 1943.

Fort Peck Dam, Montana.—The initial power generating unit of 35,000 kilowatts capacity was completed and placed in operation on July 1, 1943.

St. Marys Falls Canal, Michigan.—The construction of the MacArthur Lock at Sault Ste. Marie, Mich. was completed during August 1943, replacing the obsolete Weitzel Lock and providing for the passage of deeper-draft lake vessels. (See Miscellaneous Structures.)

Bonneville Dam, Washington and Oregon.—Construction of the power house extension was completed during December 1943, placing into operation the 10th and final generating unit, adding 74,000 additional horsepower, and increasing the total capacity of the power plant to 518,400 kilowatts.

BUILDINGS

General.—Although wartime construction passed its peak during the early months of 1943, it was still dominated by shortages of manpower, particularly skilled labor, and critical materials, notably copper, brass, steel, and wood. The demand for dimension lumber for packing and crating and for pre-fabricated house and barrack construction still remains at a peak, and lumber of two-inch and less thickness remains highly critical, but the War Production Board has placed three inch and thicker lumber in the non-critical category. Concrete and timber have been used in the construction of most of the buildings this year, thus allowing a great saving in steel.

Dodge-Chicago Plant.—This main building, said to be the country's largest, covers 82 acres. Over 100,000 cu. yds. of concrete were poured for the 82-acre roof in the six months during its construction. For the entire plant, 400,000 cu. yds. of concrete were distributed to 20 structures over an area of 500 acres in a little more than six months. (THE AMERICAN YEAR BOOK, 1942, p. 684, War Plant for Chrysler Corporation.)

Douglas Aircraft Factory near Chicago.—The framework for this factory which will be operated by the Douglas Aircraft Company in the manufacture of C-54 four-engine army transport planes was completed on Feb. 22. This factory is claimed to be the largest factory building in the world constructed of timber. It required 27,000,000 board feet of timber, but major emphasis in the design was placed on the conservation of critical materials, and the result was an estimated saving of 30,000 tons of metal, including 20,000 tons of steel. The main assembly bay is spanned by 150-ft. trusses weighing up to 70 tons each. All columns are of glued laminated construction, to reduce the need for solid timbers. The largest columns are 54 feet long and 17½ x 34⅜ in. in section.

Navy Blimp Docks.—One of these large timber blimp docks was erected at Moffett Field in record time. The arch barrel was completed in 17 one-shift days; actually 156 working hours. It is one of the standard timber docks of 237-ft. span, 170 ft. high and about 1,000 ft. long, involving 1,700,000 ft. b. m. of lumber in the arch barrel. These docks require about 2,700,000 ft. b. m. for each hangar, exclusive of the doors. The doors amount to 484,000 ft. b. m. for the flat sliding type or 638,000 ft. b. m. for the semi-dome type. These hangars are judged to be the greatest structures ever erected of timber.

Pratt and Whitney Aircraft Kansas City Plant.—By employing a system of movable forms to speed construction, it was possible for thousands of men and women to be at work in this mammoth plant four months after ground was broken. Similar to the Dodge-Chrysler factory, this one is roofed over with concrete arch-roof spans supported on continuous girders.

War Housing Dwelling Units.—By Sept. 30, dwelling units numbering 716,286 had been financed with public funds within the total war housing program, exclusive of the Home Owners Loan Corporation conversions. Of this number, 535,928 were completed and fewer than 51,575 still had to be placed under contract.

BRIDGES

Dubuque Bridge.—Construction continued on this 3-span continuous truss bridge across the Mississippi River at Dubuque. It is estimated that this $3,500,000 structure will be open to traffic early next summer.

Peace River Bridge.—The $1,500,000 suspension bridge which crosses the Peace River in British Columbia, on the Alaska Highway, with a 930 ft. main span, was dedicated Aug. 30. The total length of this bridge is almost 2,130 ft., center to center of bearings.

Pit River Bridge, California.—This bridge was opened to auto traffic for the first time on Jan. 8, 1943. Its upper deck, carrying a four-lane section of Highway 99, is 500 feet above the present river level, which makes it the highest double-decker span in the world. The lower deck, which carries the Southern Pacific Railroad across the Pit River above the site of Shasta Dam, was opened to rail traffic on March 15, 1942.

Timber Bridge Near Pittsburgh.—A timber bridge was completed in 1943 across a channel of the Ohio River near Pittsburgh where swift currents are common. It is supported on timber piers carried on piles and rock-filled cribs. Six timber Pratt through truss-spans 129½ feet long were used in combination with 329 feet of timber approach trestle to give a total length of 1,100 feet. The trusses are spaced 27 ft. 6 in. center to center, providing a 24-foot roadway designed to carry 13-ton trucks and 30-ton street cars.

ALASKA HIGHWAY

According to an announcement of the officials of the United States Public Roads Administration, more than 35 major bridges, 90 per cent of them of steel construction, were to be built this year along the Alcan Highway. Some of the bridges were to be several hundred feet in length.

CHICAGO SUBWAY

The State Street route of the Chicago Subway project was completed during the year, and put into operation for public use on Oct. 10. The second part of the project, the Dearborn Street route, was substantially completed, except for architectural, mechanical, and electrical work, which was deferred because of the war.

The State Street route extends from a connection with the south side elevated structure near 17th and South State streets for a distance of approximately five miles to a connection with the north side elevated structure near Sheffield and Armitage avenues. Of the total mileage, about 1¼ miles consist of two shield-driven parallel tubes through the Loop section of the city, 2½ miles of parallel hand-mined tunnels of horse-shoe shape, and about 1¼ miles of inclined open-cut and elevated structure by means of which the trains pass from the level of the tunnels to that of the existing elevated railroad. The crossing of the Chicago River at State Street was made by means of prefabricated twin tubes 200 feet long, floated to the site and lowered into a dredged channel.

In general, base of rail is located 40 feet below street grade. Station structures are of the mezzanine type, with floor level 18 feet below street grade. The mezzanines are reached by stairways from the street. In them are located change booths, turnstiles, concession booths, and rest rooms. Escalators and stairways extend from the mezzanine level to the loading platforms. In the State Street Route, 14 mezzanine stations have been provided.

Loading platforms are located in an interior archway between the tubes at 12 of the stations, and in side platforms at the remaining two. Interior platforms are 22 feet wide in the Loop district and 18 feet elsewhere. Side platforms have a width of 12 feet. The total width of subway structure in the Loop district is 52.5 feet. All of the structures are of reinforced concrete construction except at the station platforms, where steel columns and girders are incorporated in the concrete sections to reduce the size of columns in the platform area.

INTER-AMERICAN HIGHWAY

About 25,000 workers are engaged

in constructing 956 miles of road to complete the 1,569 miles of the Inter-American Highway between Mexico and the Panama Canal. The work is a joint war project of the U. S. Engineers and the U. S. Public Roads Administration, operating in cooperation with local highway departments. Portions of the road are now completed, but much construction will remain for 1944.

MISCELLANEOUS CONSTRUCTION

MacArthur Lock at the Soo.—This lock is in the St. Marys River at Sault Ste. Marie, Mich. It is 800 feet long and 80 feet wide, and overcame a drop of about 22 feet between Lake Superior and Lake Huron. More than 200,000 cu. yds. of concrete were used in the approach canal walls and in the lock itself. Costing $14,000,000, it was completed in 14 months to set a new record for ship lock construction.

Naval Supply Depot in Utah.—The second largest naval storehouse in the United States was completed in the spring of this year. It was built almost entirely of concrete, lumber, and composition materials, using little critically short metal. The floor space of 175 acres was available for use less than ten months after ground was broken for the beginning of construction operations.

Pipelines.—The Big Inch pipeline was dedicated July 19 at Phoenixville, Pa., where the 1,251-mile, 24-inch diameter pipe was joined with 20-inch diameter branches, which will carry the Texas crude oil to Eastern refineries with termini at Bayonne, N. J. and Marcus Hook, Pa. This pipeline, with a total length of 1,388 miles, cost $95,000,000, and is expected to deliver 300,000 bbl. of crude oil daily.

The pipeline known among constructors as Big Inch, Jr. is a 20-inch diameter pipeline being laid generally parallel to the 24-inch diameter "Big Inch" and will extend from the Houston-Beaumont, Texas area to Philadelphia and New York. This new and smaller line, when finished, will be about 1,475 miles long, and is expected to carry 235,000 bbl. daily.

Sinker Creek Dam, Idaho.—Sinker Creek Dam in Owyhee County, Idaho, failed at midnight June 19, 1943. It was an earth fill structure 70 feet high, 1,100 feet long on the crest, 200 feet long on the bottom and impounded 2,700 acre feet of water. The breech, about 300 feet measured along the crest, occurred almost instantaneously, and caused the reservoir to empty within two hours.

MECHANICAL ENGINEERING

By Arthur M. Greene, Jr.

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EDUCATION AND TRAINING

The accelerated programs for civilian students in our engineering schools reported in 1943 were continued although the enrollments are small due to induction into the Armed Forces of most young men of college age. To offset this decrease in enrollment the Army and the Navy have sent to the colleges, universities, and schools of engineering young men with the necessary preparation for the Army Specialized Training Programs for 130,000 young men and the Navy V-12 Programs for 20,000 men for the year '43-'44.

The Army Specialized Training Programs in Engineering consist of a Basic Phase Engineering curriculum covering three terms of 12 weeks in mathematics, physics, chemistry, English, history, geography and one term of engineering drawing and four special basic courses in which one of the special subjects of surveying, internal combustion engines, communications, or acoustics and optics has replaced part of the work of the first basic course. The basic course is followed by the Advanced Phase of engineering in which special programs have been arranged in chemical engineering for four terms; civil engineering for three terms to be followed by two terms in sanitary engineering for those in this field; electrical engineering for four terms with two options; and mechanical engineering for three terms.

The Navy V-12 Program has terms of 16 weeks with aviation candidates remaining in college for two terms; deck candidates, four terms; general engineering candidates, six terms; and specialist engineering candidates, eight terms. The men have schedules of 52 to 58 hours per week for class, laboratory, and preparation. The first year of two terms covers mathematics, English, history, physics, engineering drawing, naval organization and physical training with 19 class meetings and 29 contact hours. This work is mostly done in the liberal arts colleges.

The second college year has five curricula for the Civil Engineering Corps, Construction Corps, deck candidates, engineering candidates, and engineering specialist candidates. In these the class meetings vary from 19 to 20 per week and the contact hours from 25 to 32.

The third college year, as deck officer candidates have finished, contains six curricula for the Civil Engineering Corps, Construction Corps, engineering candidates, engineering specialist candidates in steam or combustion engines, in electrical power, and in electrical communications.

The fourth college years for specialists have five curricula, for the Civil Engineering Corps, Combustion Corps, three specialist candidates in steam and combustion engines, electrical power, and electrical communications.

In these programs of the Army and the Navy admission is dependent upon examinations which were given throughout the country in the spring of 1943 to 316,000 boys in which 123,000 expressed a preference for the Navy, and by June 17,000 had been accepted for entrance to the V-12 program.

Other courses for the two air forces will increase the number of trainees by more than 70,000. There are over 400 educational institutions participating in this work of education of service men for their later utilization in the active duties of the armed forces.

EDUCATIONAL TRAINING IN THE ARMED FORCES

The United States Armed Forces Institute is an outgrowth of the Army Institute established in Madison, Wis., April 1, 1942. It originally offered correspondence courses of its own or those of the extension divisions of universities all over the United States to any men in Army service with the aid of partial fees from the Federal Government. With the request of the Navy to include members of its various branches the name was changed, but the methods were continued.

The courses covered by this correspondence system are elementary mathematics, motor mechanics, radio, machine shop work, typewriting, shorthand, bookkeeping, business, English. The institute has grown at the rate of 1,500 new registrants per week, and by February they were evenly divided between the overseas forces and those in the camps of the United States. Since then the overseas forces have exceeded those in the camps. Courses from the first two years of college have been prepared, and later our colleges will give examinations for credits to be allowed for the successful completion of some of these courses.

TRAINING FOR INDUSTRY

Although the number of engineers of the United States in the early part of 1943 was estimated at 280,000 persons, the expansion of our armed services, war production, and civilian needs indicated that probably 40,000 additional engineers would be required during the year. The accelerated programs would not meet this demand, and so the upgrading of employees and engineers in minor positions and even the training for those in semi-engineering positions has been carried on by the courses given under Engineering, Science and Management War Training (E.S.M.W.T.) for the fiscal year '42-'43. This is a continuation of the Engineering, Science and Management Defence Training of the earlier year. By the end of April of the fiscal year, 222 institutions were approved for 9,324 different courses with enrollments of 372,528. In the group of 222 institutions, 155 were approved for engineering, 206 for chemistry, 157 for physics and 147 for production supervision. Three-quarters of the enrollments were in engineering courses and about one-fifth in supervision courses. About one-quarter of the trainees were women. More than 60 per cent of the trainees completed the courses satisfactorily and were placed in the kinds of work for which the courses were planned. The total number of trainees for twelve months was slightly over 428,000.

Women are found in courses devoted to engineering drawing, aeronautical engineering, personnel administration, inspection and testing, communications, surveying and mapping, engineering fundamental and analytical chemistry. Of the 93,571 women enrolled, 54,000 entered engineering courses. It is expected that the number of women trainees will be one-half of the enrollment in the near future.

The E.S.M.W.T. courses which were needed by industry and education included the following fields: chemistry of powder and explosives; surveying, construction and structural engineering; fundamentals of radio; aircraft industry, shipbuilding industry, mathematics, chemistry and chemical engineering, teaching mathematics and physics.

TRAINING IN INDUSTRY

Not only has industry used the E.S.M.W.T. courses for meeting some of its needs but many have contracted with certain schools or have established their own schools for the training of mechanics and engineers. One large company in the aeronautical industry has selected 719 women out of 1,000 contacts for ten months training during the year 1943 at seven different institutions. These women come from 44 states, and from 300 colleges. Instruction will be given in the following subjects: engineering mathematics, job terminology and specifications, aerodynamics, aircraft drawing, standards and design, engineering mechanics, including strength and testing of materials and structural analysis, properties and processing of aircraft materials, aircraft production methods and operation, and physical education. During this training at the expense of the company the cadette receives $10 per week.

STEAM BOILERS

The largest steam boiler for steel mill use was one generating 450,000 pounds of steam per hour at 500 psi and 750 F. The boiler could be fired by blast furnace gas, or pulverized coal with oil pilot-burner to ignite the blast furnace gases. The variation of demand on this boiler was 55 per cent of the maximum output. Because the use of blast furnace gas would give too much superheat this temperature of the steam was controlled by special by-pass arrangements of the flue gases. In another steel plant the three boilers for 400 psi at 700 F. were designed to use blast furnace gas supplemented by coke oven gas or oil.

During the year a design of small 6-inch ceramic tubes for the removal of fly ash from boiler gases was developed to replace metal parts of a cinder catcher operating on the same principle of centrifugal separation from whirling gases.

For small house boilers a down draft furnace for bituminous coals has been developed at the Experiment Station of the University of Illinois. Green coal is fired into a side compartment and as it is warmed by the fire in the combustion chamber the gases are delivered through the incandescent fuel which received the main air supply. The tests with coals of 38 per cent volatile matter showed a more constant temperature, a higher CO_2 content, and a smaller number of firings than those in the normal type of small furnace. Night banking showed the same advantages.

During the year a report was made of the performance of a boiler supplying 650,000 pounds of steam per hour at 1825 psi and 950 F. for a topping turbine for a plant using steam in its old turbines at 375 psi and 750 F. The boiler had forced water circulation, and the test showed that this increased the efficiency of the boiler, reduced the operating labor, improved the steam quality, increased the availability of the boiler, and reduced the maintenance. The boiler is equipped with a radiant bank superheater, a convection superheater, and a reheat superheater to increase the superheat of the exhaust steam of the topping turbine from 603 F. to 750 F.

The synthetic rubber program has required boilers totalling 13,080,000 pounds of steam per hour. Pressures have varied from 350 psi to 900 psi and temperatures from 700 to 750 F. In some processes for the manufacture of butadiene steam at 25 psi is heated to 1400 F. In some of these superheaters 6-inch O. D. tubes are used with ½ inch walls subject to direct radiation from low temperature gas burners and others have 2-inch tubes, 0.2 inch thick, subject to gas at 2,000 F.

Marine boilers in use in the Navy today are of the water tube type with pressure at 600 psi and temperatures of 850 F. while the Maritime Commission for merchant vessels uses 450 psi and 750 F. The S. S. *Examiner*, however, was equipped with a reheat cycle using 1200 psi and 750 F. This showed a saving in fuel oil over a sister ship with 425 psi and 750 F. of 10.34 per cent. All of these boilers are oil burning although Lake steamers operate at 400 psi and 750 F. and use coal as the fuel.

One type of boiler for the Maritime Commission is a two-drum boiler with a three-oil burner water wall furnace producing 25,000 to 37,500 pounds of steam per hour. The furnace is of sufficient volume with abundant heat release and high CO_2. The convection superheater is located behind the three rows of tubes forming the front bank between the two drums. There are 13 tubes in the back bank and this is followed by the economizer at the other side of the setting. The setting is steel cased and heavily insulated and designed for compactness for shipping, installing, and for the saving of ship space.

The seventh of a new type of twin furnace boiler was installed to generate 450,000 pounds of steam per hour at 1550 psi and 950 F. from water at 425 F. and with combustion air at 463 F. The efficiency of the unit is 87.7 per cent. One of the large tube wall furnaces is used for radiant superheating, the other for generating steam. There is a convection superheater between the two furnaces and several rows of water tubes. Four pulverized fuel burners are placed at the top of each furnace, and the fuel feed for the boiler furnace is fixed by the steam demand while that for the superheater furnace is controlled by the final temperature of the steam. The height of the furnace with burners at top and gas outlets as bottoms tends to throw the ash particles from the gas stream without slagging.

Experiments and mathematical investigation of stresses were reported during the year on the holding power and performance of expanded boiler tubes, including the belling of the tube ends and the expansion of tubes into small grooves made in the header or shell walls.

An extensive study on the heat transfer through boiler tube walls at pressures from 500 psi to 3300 psi and at heat from rates of from 20,000 to 200,000 Btu per sq. ft. of projected area during an hour was reported during the year. These heat rates would mean approximately an evaporative rate of from six to 60 pounds of evaporation per hour for each square foot of external surface. The experiments were made with the tubes filled with circulated water alone and with water and steam. The effect of size of tubes as well as the resistance to flow of the hot water or the water-steam mixture was investigated as well as the heat transfer coefficient. Five of the tubes, coiled into a pancake form and one straight tube were exposed to radiant energy on one side in the furnace of a boiler of a power plant. The results indicate that the temperature difference between the fluid and the external wall remains substantially constant although the fluid temperature and water-steam ratio along the length of the tube changes and also that as the mass flow changed the outside surface temperature remained the same. The heat transfer coefficient was independent of the steam-water ratio and the film coefficient was so great that the tube temperature was fixed by metallic conduction. The temperature difference between water and wall exterior appeared to vary on a straight line when plotted against heat input and it also varied directly with tube thickness. The film conduction appeared to be about 5,000 Btu per hour, square foot of projected surface, degree.

STEAM TURBINES

No special steam turbines were noted during the year, although one company reports the construction of the drum of a turbine rotor by the welding of six discs and two stub end forgings to simplify and accelerate construction. This was accomplished by building a special housing in which the assembled parts could be slowly rotated at two turns per hour after heating to 500 F. by infra red lamps during welding. After this it was stress relieved at 1150 F. and the welds were X-rayed.

To bolt turbine parts together without straining large bolts and to secure the proper load, bolts have been made hollow and heated rapidly to the proper expansion by an inserted electric heater after which the nut is easily moved to its proper location for the desired stress on cooling. The size of the hole is one-quarter inch for each inch of bolt diameter and 50 watts per inch are used for heating. This heating usually takes five minutes.

The stresses between loaded bolts and nuts have been studied by photoelastic models which indicate great stress concentrations at the fillets of the threads. These concentrations may be reduced 30 per cent by tapering the thread or by the use of a tapered lip on the nut below the nut seat. Because of the most accurate machining in producing a tapered thread, the tapered lip is advisable. The use of this lip more uniformly distributes the load over the threads of the bolt and nut and reduces the maximum stress concentration.

During the year welding was resorted to for the removal of the erosion of the rotors of steam turbine during the overhaul of the machines. In the reported experience, costing $576 and requiring 285 hours, a machine costing $120,000 was returned to service.

HYDRAULIC POWER

One of the newest developments reported in 1943 was the project to create a new Great Lake of 1500 square miles in Canada and divert 20,000 and 30,000 cfs. of water which formerly flowed into Hudson Bay into Lake Superior. When this flow is added to the flow from the Great Lakes an equal amount will be available at Niagara Falls for new power and the flow before reaching Superior will develop one million horse power.

The Shipshaw Development on one of the tributaries of the Saguenay River in Quebec has added to that water shed 1,200,000 hp. which, with 300,000 hp. at Chute á Caron, and 540,000 hp. at Isle Moline brings the total to 2,040,000 hp. The drainage area of the new plant is 28,000 square miles, and the storage lake has an area of 400 square miles so that at low flow 80 per cent of the capacity can be generated.

The largest impulse wheel in the eastern section of the United States is operating under 1,215 feet head with 1,150 feet at the turbine of 30,000 hp. The two overhung wheels are connected to a 27,000 kva. altemeter at the center of the shaft. At about 70 per cent of the maximum output the combined efficiency of wheels and generator is 86½ per cent. The generator at full load has an efficiency of 97.6% while the maximum efficiency of the wheels is 88.9 per cent.

The Tennessee Valley Authority has a total of 1,560,000 kw. of water power capacity, including that under construction, with provisions for an ultimate capacity of 2,030,000 kw. In addition it has 340,000 kw. of steam turbines. In all there are 70 units in 20 plants. The plants near the storage reservoirs are Francis turbines of moderate specific speed, while the river flow plants are equipped with variable pitch propeller turbines of the Kaplan type.

Care has been taken to submerge the propeller turbines from six to 20.6 feet to avoid cavitation and consequently they must be unwatered when examination is necessary or it is desired to operate a unit as a synchronous condenser. The depth is so fixed that there is a factor of safety of from one to three or four feet before the critical value of the cavitation factor is reached. By special arrangement of switches on the air compressor motors this unwatering is accomplished in about one minute.

To accelerate construction for the later turbines a conference was held between the builders and the engineers of the Authority to agree upon a substructure design which could be used with the turbine of any builder and yet allow them to make desired guarantees of performance. This saved at least eight months in the completion of some plants. One plant authorized after December, 1941 was in operation 13 months after that authorization. Some of the turbines after this agreement on design gave 16 to 21 per cent more capacity than guaranteed.

Steel runners are now standard, as they do not crack and disintegrate under years of use while varying load and welding repairs are made in any position. The guide vanes are steel castings. Chromium plating from low grade ores has been done at certain critical points in the flow channels. Rolled plates have proven best for throat plates as regards pitting. The efficiencies of these turbines have been determined by test on their models stepped up by the Moody formula to care for the effect of size.

For operating, plant index tests are made by the use of taps on the scroll casing to check the turbine efficiencies and to obtain data for a calibration curve and to shape the cam for the adjustment of the blades of the Kaplan wheels.

INTERNAL COMBUSTION ENGINES

Exclusive of the vast production of airplane engines for our armed forces using high octane fuel the most active production of internal combustion engines has been in Diesel engines, although many gas and gasoline engines for industrial purposes are being used for the smaller sizes. One large war plant needing power has installed 50—2 cycle—10 cylinder gas engines each of 1165 hp. and 18—2 cycle—9 cylinder gas engines. each of 3600 hp. These use natural gas of 1050 B.t.u. per cu. ft. They are placed in four buildings, two with 25 of the small units, each building housing 18,750 kw. of generators and two with 9 of the larger engines, each building housing 20,250 kw. of generators. The total capacity of 78,000 kw. is one of the largest gas engine plants of recent years. Cooling water is supplied by two sets of pumps, each of 210,000 g.p.m. capacity.

The developments in the Diesel engine construction have been in the fields of transportation by truck and rail; marine propulsion; municipal power plants for lighting and water supply; and for agricultural machinery. There are about 50 companies building these engines, and for the large slower speed four cycle engines the weight per horsepower is 90 to 160 pounds. For the two cycle engines at high speed the weight varies from 25 to 40 pounds per hp. Diesel engines for submarines weigh about 16 pounds per hp. The so-called "Pancake" engine developed for the U. S. Navy has a test run weight of four pounds per horsepower at 1200 b.hp., and it is believed that with a sustained load of 900 hp. the weight would be 5.3 pounds per b.hp.

This "Pancake" engine consists of 16 two-cycle cylinders arranged in four banks around a vertical shaft connected by a bevel gear reduction to the driven shaft and at 1800 r.p.m. develops 1200 b.hp. It is supplied with 4000 c.f.m. of air at 6 psi. from a blower at 18,000 r.p.m. mounted within the housing. This blower weighs 100 pounds. The engine occupies one-third the space of a conventional engine.

During the year the study of exhaust piping for the improvement in efficiency and capacity of two-cycle Diesel engines by eliminating improper pressure waves was continued.

Two new superchargers for Diesel's were reported during the year. Each of these is the equivalent of a helical gear air pump of high speed.

The performance of a number of efficient municipal light and power plants was reported during the year. Some of these have records of 15 years. At one station an engine was operated continuously for 28 days. In most of these the plant develops over 11.5 k.w.h. per gallon of fuel oil with a total operating cost for fuel, lubricant, labor, maintenance, and supplies of less than 9 mills per k.w.h.

The Maritime Commission ships with Diesel engines drive have two single acting, two-cycle engines with reduction gears to the single propeller shaft and electric or hydraulic couplings used for speed changing and maneuvering. These couplings eliminate the engine vibrations from the propeller and shaft. The efficiency of these drives and couplings is about 90 per cent, the smaller slippage of 2 per cent in the electric coupling being offset by the 11 kw. required for its exciting circuit. The ships utilize the exhaust gas in waste heat boilers generating steam at 25 psi. for heating, hot water, and evaporation; while in port oil burners are used in these boilers which are designed for 100 psi.

Diesel engines are used extensively in the Navy. The Navy used 150,000 hp. of Diesel engines at the close of the First World War, and in 1943 there were 12,000,000 hp. in Diesels of various sizes. Tugs are equipped with engine power of 300 to 3,000 hp.; landing craft, 175 to 2,000 hp.; seaplane tenders, 6,000 hp.; submarine chasers, 800 to 1,800 hp.; patrol and mine sweepers, 3,000 hp.; auxiliary ships, 12,000 hp.; escort vessels, 6,000 to 12,000 hp.

The use of Diesel engines for locomotives is steadily increasing because of the better availability of the machine, low cost of fuel and upkeep as well as shorter time for servicing. In October, 1941 there were 1,486 Diesel locomotives, 716 electric locomotives, and 39,245 steam locomotives in the United States. The percentage of Diesels, however, is increasing, for in April, 1943 Class I railroads had 586 locomotives on order, of which 182 were Diesels, 392 steam, and 12 electric. These locomotives are of particular value on long run passenger and freight service and for switching. The former are usually made up of two units each of 2,000 to 2,700 hp. from two engines so that the four engines can exert 4,000 to 5,400 hp. for propulsion, of which 35 per cent is used in the locomotive. The engines are usually the two-cycle type and supercharged to increase power. As power from the generators is delivered to six or eight motors of the truck axles which carry most of the weight of the locomotive, the tractive effort is great, 150,000 pounds from one two-unit, 4,000 hp. locomotive being about twice that from steam locomotives. These locomotives weigh about 156 pounds per horsepower. The Diesel locomotives used for shifting are usually of 600 hp. and weigh about 100 tons or 350 pounds per hp. Industrial Diesel locomotives to 150 hp.—25 tons to 500 hp.—80 tons have been used in large numbers in recent years.

GAS TURBINE LOCOMOTIVES

The gas turbine locomotive of Brown, Boveri, and Co. of Switzerland was described during the year although completed in 1941. The gas turbine receives the hot products at 1112 F. from the combustion chamber which is supplied with compressed air, at 44 psi. and 550 F. from a heat interchanger, discharged from the compressor driven by the turbine. The remaining power of 2200 hp. from the turbine is delivered by a gear reducing the speed of 5200 r.p.m to 812 r.p.m. of the electric generator. This supplies energy to the motors on four driving axles. The turbine exhaust is used to heat the compressed air in the interchanger which cools the exhaust gas to 150 F. The weight of the locomotive was 101 tons with an axle load of 35,000 pounds. This is about 50 pounds per hp. With a trainload of 430 tons an average speed of 46 m.p.h. was developed with an oil fuel consumption of 1.2 pounds per hp. hour.

The advantages of this type of locomotive are: (1) the absence of reciprocating parts and the reduction of time outages for repair; (2) the absence of water for cooling reducing the times of servicing, although the lesser efficiency requires a larger fuel tank; (3) the absence of reciprocating parts should allow higher speed schedules; (4) a lower weight per hp.; (5) the type of fuel oil is less expensive than that for Diesel engines; (6) the lubricating costs are small.

One American company has designed a gas turbine locomotive of 5,000 hp. with a hydro-mechanical transmission which will give a total weight of 112 pounds per axle hp. This locomotive is designed for 120 m.p.h. The design calls for two 2500 hp. units. Each unit will be made up of two turbines, one to operate the compressor and the other to drive the locomotive.

TRANSPORTATION

The war demand during the year required 725,000,000,000 ton-miles of freight or 140 per cent of the requirement of 1939 and 85,000,000,000 passenger-miles or 400 per cent of that in 1935. The average freight trainload was 1,116 tons and the average carload 41 tons. The average miles per day for freight haul is 51.2 miles and the average haul 480 miles.

With all of this increased load there were only 656 new locomotives added in the first 11 months and 26,433 new freight. The bad order locomotives and freight cars were kept to a minimum by excellent repair practice, the former being 5.3 per cent and the latter 2.5 per cent. It is expected that 1,000 locomotives and 50,000 freight cars will be added during 1944.

During the year a number of heavy locomotives were added. One type of new articulated 4-4-4-4 locomotive of 880 tons has been installed on the Pennsylvania System for a through run between Harrisburg and Chicago. This unit has 508,400 pounds in the locomotive and 433,000 pounds in the tender and develops a tractive effort of 65,000 pounds with an addition of 13,500 pounds from a booster in starting. The 4 cylinders, 19¾ in. x 26 in. are supplied with superheated steam at 300 psi. through poppet valves. The weight on the drivers is 54 per cent of the weight of the locomotive. The large tender capacity of 41 tons of coal and 19,500 gallons of water was required because of the one feed stop in the 713 miles run.

For the Duluth, Messabe and Iron Range Road ten 2-3-3-4 single expansion Mallets have been added, each weighing 1,132,000 pounds with 695,000 pounds on drivers to develop a tractive effort of 140,000 pounds. The tender holds 25,000 gallons of water and 26 tons of coal requiring water at each terminus, but coaling once in a round trip. The trainload is 6,000 tons of ore, and at a speed of 10 m.p.h. it takes 12 hours and 10 minutes for the round trip. Superheated steam at 240 psi. is used in the engine. Roller bearings are used on the axles.

The New York Central has installed 25 4-8-2 locomotives for all round service from which 10,680 miles per month has been obtained. These develop 5400 hp. and deliver 4300 draw bar hp. at 60 m.p.h.

The New Haven road has installed five electric locomotives for freight service with 60,000 pounds on each of six axles. They are designed for 5,000-ton freight trains or 20 85-ton Pullman cars. This road has also installed 4000 hp. Diesel locomotives for the run of 628 miles between New Haven and Boston to be used on either freight or passenger service making a round trip each day.

The experience of a number of roads with fast Diesel-driven trains has continued to be favorable in fast time, low operating costs, greater utility, and small maintenance. The time between Chicago and Los Angeles, a distance of 2,227 miles, has been cut a day by the use of these locomotives which demand little service time during the run. Between Chicago and St. Paul the Burlington Road operates a train in 6¼ hours for 427 miles and at one place the schedule time is 38 minutes for 54.61 miles or 86.22 m.p.h. With a 50-minute overlay at Minneapolis this train makes the return trip to Chicago. The overnight run with Diesels is now 1,000 miles while with steam 500 miles was an average. The Denver Zephyr trains make 1,036 miles daily, operating 16 hours out of 24. The standing time to fuel, water, and make miscellaneous inspection between Chicago and Denver is 45 minutes. The consumption on this run is 1.82 gallons of fuel oil per mile. Of this oil 82.33 per cent is used for main power, 3.97 per cent for auxiliary power and 13.70 per cent for heating. The cost per train-mile for fuel is 8.2 cents compared with 20.2 cents for steam locomotives.

A comparison of three switch engines showed that the 24-hour cost of fuel water and engine house service was $115.27 for steam locomotives and $34.80 for Diesels. This difference is due primarily to the cost of fuel.

One railroad finds that general shop repairs are not needed until 1,200,000 miles have been covered by the Diesel locomotive. It has 55 Diesel switching locomotives, totaling 41,000 hp., which show large savings over steam locomotives for this service owing to the fact that they can be operated 24 hours per day for seven days a week, except for eight hours during which time inspection is made.

Air brakes and their control received consideration during the year. To prevent slipping with maximum brake power applied a device has been described which electrically regulates the brake pressure at different speeds. The deceleration being 2½ m.p.h. per second, although this may be doubled.

A new equipment for the braking of fast freight trains of 60 cars has been announced by the New York Air Brake Company.

The Budd disc type brake is being used on high speed trains, and some believe that the brake shoe should not be used on the wheel treads of such equipment.

Twelve hundred sleepers for soldiers have been constructed from box car dimensions by the Pullman Company. These have triple deck berths and will accommodate 30 men. Four hundred kitchen cars have also been constructed.

During the year the demands for street car and bus transportation showed enormous increases over the pre-war demand. This increase was only 25 to 130 per cent in certain larger cities but in other comparatively large cities the increase varies from 200 to 622 per cent. This, of course, means speedy maintenance methods.

HEATING, VENTILATING, AND AIR CONDITIONING

Certain industrial plants have novel features for air conditioning. In one steel plant 10,000,000 cubic feet of hot air is removed per minute from the open hearth department by gravity circulation through louvres in the roof. This gives 100 air changes per hour in the furnace section, 60 in the pouring section and 40 in other parts of the plant.

In another war plant with 20 acres of floor space there are 81 unit conditioners each handling 21,000 c.f.m. of air requiring 60 tons of refrigeration. Although 75 per cent of the air is recirculated, 100 per cent outside air can be used under proper weather conditions. For the locker rooms, cafeteria, kitchen, showers, and toilets the use of odor absorbers permits limited recirculation resulting in saving of heat in the winter and electric energy for refrigeration in the summer.

This method of utilizing gas adsorption for clearing the air of odors and impurities was used in one plant and permitted the re-use of 381,000 c.f.m. of air, resulting in a saving of 500,000 gallons of oil per winter season and 450,000 k.w.hr. of energy in a summer season. The recirculated air was passed through one-half inch of activated carbon at 35 f.p.m.

The study of the relative advantages of a central refrigerating plant for producing the condition coolant and the small unit refrigerating sets placed at the conditioner indicates that for strategic reasons the latter is to be preferred for the large plant used for war production.

During the year experience was obtained in cooling textile mills by using the evaporation of water to control humidity as the abstractor of heat. This saves refrigeration power.

For industrial space heating, coal-fired unit heaters have been constructed of capacities varying from 750,000 B.t.u. per hr. to 10,000,000 B.t.u. per hr.

Aircraft heating is figured not only for the temperature of ambient air in the plane and the conduction of the skin but radiation from the cold walls to the occupant must be considered.

This heating has been accomplished by three methods. In the steam method, a boiler placed in the exhaust pipe generates vapor and supplies it to a radiator in which it is condensed in warming the ventilating air. The air temperature is controlled by mixing heated air and cool air before the mixture is delivered to parts of the plane. In the exhaust hot air system heat interchangers in the exhaust pipe warm the air which has been scooped into the duct system leading to parts of the plane. Again, mixing is resorted to for temperature control. This system requires a device for detecting carbon monoxide which may be present if cracks occur in the heat interchanger. The internal combustion heater system uses a heater receiving fuel-air mixture from the main carburetor in which the ventilating air is heated. In others the engine fuel pump sprays fuel into the combustion chamber to be burned by air scooped up from the air stream. These air-fuel mixtures are ignited by a coil or spark plug.

A test has been made of an isolated exposed frame house in northern New York using radiant panel heating. The ceilings were made into panels and were heated by warm air. The outer walls were insulated and the windows and doors weather stripped. For 80° F. temperature difference the heat loss was 44,462 B.t.u. per hour, exclusive of a basement room and a garage. The total heated space was 13,052 cu. ft. with 1735 sq. ft. of floor. By the use of 176 thermocouples distributed through the structure it was found that the panel temperature in the house varied from 75 F. in 40 F. weather to 83 F. in 5° F. weather when the house was 71.5° F. The temperature variation between ceiling and floor in 30° F.

weather was 5.5° F. In this structure there was such a rapid response that comfort conditions were maintained during intermittent operation through a conventional heat anticipating thermostat. The house had normal air changes by fan means and the air temperature was equalized. The morning pick-up due to a cool bedroom when there was no setback of the thermostat at night required about 40 minutes of blower action in 30° F. weather while with a 5° F. setback two hours of blower action on the furnace was required.

The dehydration of foods has grown from the army requirement of 25,000,000 pounds in 1941 supplied by plants with a capacity of 9,000,000 pounds to a production of 1,750,000,000 pounds from 200 plants in 1943, of which 400,000,000 pounds are vegetables. The foods dehydrated are meats, vegetables, dairy products, eggs, and even cooked foods. To accomplish this huge task careful research has been carried out on the foods to be dried, and the biological, physical, and chemical laws governing the processes have been followed to control the end product and the rapidity of operation. To inhibit or inactivate certain chemical components, blanching with steam is first resorted to after preparing the food, and then rapid preparation is followed. In some tunnel driers the countercurrent of hot dry air circulates over the trays on the trucks collecting moisture from the drier food and cooling as it approaches the wetter foods near the point of entry. When it is needed to have the wet food in contact with the fresh air then the parallel flow tunnel is used, and if little change in temperature and moisture content is desired then the cross flow tunnel is employed. The type used and the temperatures used are selected to prevent scorching at the dry end or case hardening at the outer surface by the too rapid drying of the green foodstuff. To overcome some of the objection to either parallel or cross flow, air at different temperatures is introduced at each end of the tunnel and flows toward a central outlet giving parallel flow for the first action and then counter flow for the last part of the process. Where possible air is recirculated to save heat. These tunnels are usually 90 feet long with 15 trucks carrying 8 ft. x 4 ft. trays. These will handle 20 tons of raw potatoes a day, giving three to 3½ tons of dried potatoes with less than 7 per cent moisture. Cabbage is dehydrated to 4 per cent moisture.

For liquids, the spray method is used to dry or to evaporate the water. This evaporation is accelerated by warming the solution and increasing its vapor pressure or heating the air to decrease its relative vapor pressure, and by removing the air as soon as it is saturated and also in addition the spraying of the material to be dried increases the surface from which water may evaporate. In one evaporator the spray nozzle is placed in the center of the top of a conical chamber and passes downward through the upward flowing air which is increasing in humidity, the entering temperature and humidity of the air being fixed by the material handled to get the desired concentration. When partially evaporated fluids strike the side of the upper conical wall they are collected and returned for further evaporation.

For these dehydrators steam or gas is used for warming the air. When gas is not expensive, burners are used to warm the air heating tubes, and when it is expensive steam coils are used to heat the air to an intermediate temperature, using gas heated coils for the final temperature not attainable from steam at the pressure of the plant.

Some of the balanced rations prepared for the services have fine foods, including ham and eggs in one can, sufficient for three full meals for five men for one day. This can be made ready for eating in a few minutes. Three menus have been worked out with 4,000 calories each. Some of the foods prepared are prune powder and apricot powder for making jams, Swiss cheese, soup, baked beans, and rice pudding. For all of these, it is only necessary to add water and cook.

FUEL RATIONING

The fuel oil ration of two-thirds of that needed in a normal year for the heating season of 1942-43 was undoubtedly determined arbitrarily in view of the probable shortage of oil. The statements in the government publication that this would heat residences to 65 F. was probably made because the medical profession had stated that such a temperature was safe for health. It is not correct if it is assumed that normal pre-war temperatures for residences was 70° F. In such a case for the eastern central states two-thirds of the oil will heat the residence only to 62.2° F. The experience in one community indicates that most householders were able to satisfy their demands on the oil allowed.

The experience of the first year of rationing led to a simplification of administration and the issuance of rations which made the work of rationing for the second year simpler and economical for the rationing board and the distributors of fuel oil. The amount of the ration remains the same except for small residences and for large residences with a small number of occupants. In each of these cases the ration has been increased. On account of the shortage of coal this fuel is being rationed at 87½ per cent of the consumption of 1942. This is not administered by the ration boards but by the coal dealers.

Surgeon General Parran states that although 65° F. is safe for health and comfort, 55° F. will not lead to an impairment of health, and even temperatures as low as 45° F. are only slightly dangerous; temperatures below 45° F. seriously endanger health.

The effects of fuel oil rationing during the last heating season and the rationing of fuel oil and coal during the present season will have a great effect on national economy, as they have made all conscious of the wastes in past practices of warming our homes and places of business. Our heating systems have been inefficient because of deterioration from age, and neglect in care. There have been faulty chimneys and lack of controls. Our firing of fuel has been faulty and our buildings have been without insulation and storm windows. For many years the Bureau of Mines has endeavored to improve our methods of firing but few have followed its suggestions. Now. that the plentiful supply has been reduced, all are aware of the necessity for economical application of that which we are allotted and the need of cutting out unnecessary spaces. By better use of our coal, 10 to 15 per cent may be saved, and the same if not a greater percentage of fuel oil can be used for other purposes than space heating.

The experience of the year made the public realize that there has been overheating of homes, institutions, and offices, and this alone may be worth the inconveniences experienced by many.

REFRIGERATION

A method of protecting flying suits from moths has been devised. The clothing is held for several days at 15° F. and then the temperature is quickly raised to 50° F. for the development of larvae, and after a few hours at this temperature it is lowered again to 15° F. for a day to destroy any developed eggs. After this the suits are stored at 35° to 40° F.

On account of the use of Freon 12 for war purposes this non-toxic material is not available as a refrigerating medium, and other materials must be used in systems. One of these is another Freon product and also methyl chloride. This latter is toxic and inflammable and must be used with caution and not in contact with aluminum, zinc, or magnesium. To remove traces of moisture in the refrigerant, circuit silica gel or activated alumina is used because water with methyl chloride in contact with aluminum forms a compound which is spontaneously inflammable.

The use of public locker plants has extended to 47 states. In these, lockers of various sizes are used for the holding of foods of all kinds. In many of them, butcher shops for the preparation of meats for storage is carried out for the renters of lockers. In some industrial plants lockers are available for employees for the storage of meats, including slaughtering, chilling and preparation, and for the storage of garden surpluses.

The precooling of cars for fruit transportation has been practised for many years at large shipping points but during 1943 there was reported the use of mobile precooling units used in California and Arizona for small shipping points. The units are moved by tractors to various places as precooling is needed. Each unit contains a 50-ton ammonia compressor with its condensers and evaporators and a 1500 c.f.m. fan and motors. The cooled air is discharged into the top of the car door above the cases using canvas baffles to direct the air flow. The air is returned at the bottom of the car door for recirculation. One company has 20 units which are scheduled to meet the requirement of smaller shippers.

To aid the shipment of cooled materials refrigerator cars of the country have been pooled. This reduces much cross hauling and empty mileage.

MANUFACTURING

In February, 1943, 100 prime contractors held 70 per cent of the war contracts amounting to almost $60,000,000,000. Eight of these had contracts for more than $1,000,000,000.

The inspection of small parts has been speeded up by the use of an image of the part which is magnified 22 times and reflected on a glass screen. A similar method is used for examining the profiles of such parts as gears or formed tools by projecting the image magnified 50 times upon a screen.

The use of glass gages for inspection and production has supplanted the use of hardened steel gages for munition work because of certain inherent advantages. Glass is more easily handled on account of weight (160 lb. per cu. ft. to 485 lb. per cu. ft.); it gives visibility in use; it teaches inspectors to handle the gage more carefully; it saves tool steel; perspiration has no corrosive effect; there is less tendency to seize or gall; scratches on glass do not raise burrs; thermal conductivity is less than steel; it appears to have the same or better abrasive qualities than steel. One gage was used for 260,000 gageings, and after 150,000 the wear was 0.00005 inch. The normal steel gage has a life of 70,000 operations.

Hydraulic presses of 1,000 to 5,500 tons have been built for forging and for forming airplane parts or shell casings. Presses formerly used for civilian goods are now on war production. In one press 388 punches properly spaced are simultaneously used for plate perforation.

To meet the demand for tools or the maintenance of production, repairs, or remodellings not deemed advisable during the past have been undertaken. Machine tools long ago discarded have been rebuilt for accurate and efficient use. In this program, welding and metallizing have been extensively used. In the case of broken fans, shafts and cross heads, or for bed plates of converted tools, welding by torch or arc not only reduced cost but, what is more important, saved time. In many cases the machine was not dismantled for these repairs.

Metallizing is used to restore worn surfaces by spraying on molten metal of the proper composition and properties for the work of the surface. For instance, during the year the shaft seat of the fly wheel of an air compressor was so worn that balance was destroyed and excessive vibrations occurred. A new shaft would cost over $1,500; its procurement and installation would take much time. Instead of this purchase, the fly wheel was removed and as the shaft and motor rotor were turned by an air motor the seat was turned off slightly and prepared for the spray of molten metal which was then brought to an excessive thickness. When this excess was turned off to give the proper diameter, the fly wheel was replaced. This repair cost $316.14 and required only 10 pounds of wire compared with 1,300 pounds of critical steel in a new shaft. The compressor was not dismantled for this repair. A sugar factory in the East refitted its entire worn equipment by metallization.

Hi-cycle milling is the name given to the new method of machining aluminum and magnesium in which the tool turns at 3,000 to 10,000 r.p.m. with feeds of 150 to 300 inches per minute, and the cutting speed is 10,000 surface feet per minute. This is done with cemented carbide tools.

To protect the worker, transparent plastic or glass shields have been used over tools of various kinds. Where dust has been given off in such cases as operations on magnesium, it is collected by water streams from which the sludge may be removed for further use of the water.

In the conservation of critical materials, redesign has played as important a part as the use of substitute materials. In one piece, which started with 56 pounds of metal to obtain a six-pound part, the new design started with 14 pounds. For a wheel requiring 11.1 pounds to give 8.7 pounds in the finished wheel a new design gave a wheel of 7.06 pounds from stock weighing eight pounds. A chrome steel casting weighing 9.3 pounds was redesigned to require 6.1 pounds for a finished part of 3.2 pounds.

Stamping has also been substituted for forging, reducing the number of men and machines and the amount of scrap. In the construction of jigs plastics are used with a thin metal facing to support metal bushings, saving materials and reducing cost.

Full size wood models of planes have been used to aid in building dies for ribs and stretcher machines for the skin plates, for making master parts and drill jigs as well as an inspecting device in place of expensively built up gaging fixtures. Plastic models of structures are used to determine the special relation of parts and also to determine the possibility of prefabrication of sections of the structure to speed production. The use of models of punchings for the layout of sheets has reduced the scrap from the press by as much as 29 per cent in some instances. Models are also used in plant layout for the arrangement of machines in sequential operations.

To assure the perfect conditions of airplane engines in the field when used for replacement, the motor is carefully protected against the entrance of moisture during shipment by first covering the engine with strips of oilcloth and then placing it in a "Pliofilm" bag with its open edges vulcanized by a heating unit. A small hole left for the removal of the moisture laden air by a vacuum pump is sealed after the bag has collapsed. Before placement in the bag the engine is flushed with hot oil, washed in a non-inflammable solvent —Varsol—and then silica gel in crystal form, in perforated cartridges and bags, is placed in the spark plug holes and on each cylinder. This silica gel is so treated that when moisture free it is blue and when saturated pink. An indicator card showing the color for different amounts of moisture is attached to each engine.

The packing case is made without the usual protruding steel hardware, and countersunk handles are used for lifting. This saves shipping space, doubling the number of engines to be placed in one freight car and also increasing the number to be carried in the cargo space of a vessel.

Of the new large plants reported in 1943, mention is made of a new steel plant in the Rocky Mountain region for the production of 1,280,000 tons of steel in blooms, plates, and shapes. Two of the special problems at this plant were the water supply and the uniformity in the ore for the blast furnaces. Part of the water was secured from a reclamation project and part from wells. Much of the plant water had to be reclaimed and the make-up water treated to reduce initial hardness. The daily requirements of the plant were 220,000,000 gallons, of which 29,000,000 gallons from the storage reservoir and 20,000,000 gallons from wells are for make up. The ore feed was made more uniform by distributing it from the mines in thin layers, lengthwise of the stock pile, and then removing the ore crosswise of the pile as it was needed for the furnace. The 1,000,000 pounds of steam per hour for the plant was generated in five boilers using blast furnace gas, coke oven gas, powdered coal, or coke breeze as fuels. Although only one 50,000 kw. turbo generator was installed, public utilities agreed to supply energy when needed.

Another steel mill farther west with an annual production of 675,000 tons receives its ore from a strip mine 300 miles away, limestone from a quarry 10 miles away, and coal from a distance of 700 miles. The two batteries of by-product coke ovens produce 900 tons of coke per day with ammonium sulphate, benzole, toluol, xylol, naphtha, creosote, fuel oil, and pitch. Water is conserved by the use of large cooling towers and Dorr clarifiers. Its roughing mill, three high finishing roll, plate mill, and smaller mills require a peak demand of 10,000 kw. for 40,000 hp. of connected load. This is purchased power at seven miles per kw. hr. in addition to that developed from its blast furnace boilers driving the 100,000 c.f.m. turbo compressors.

A basic magnesium plant has been built in the arid part of the United States to reduce magnesium oxide of that area to the chloride, and then by electrolytic methods basic magnesium is obtained. In 1939, 13,150 tons of this metal were used in the United States, one-half of which was imported from Germany. This plant is designed to produce several times the amount used in 1939.

One of the inventions reported during the year which has aided the Armed Forces is a portable pipe line built of spirally welded flexible pipe in 20-ft. sections with grooved ends for connections. These sections which weigh 90 pounds may be laid at the rate of 10 to 30 miles per day and weigh 13 tons per mile, costing $3,000. The four-inch size will handle 6,000 barrels of fluid per day while the six-inch line will handle 10,000 barrels. The pipe can be placed on the ground and can be bent to follow contours of the ground where necessary.

To conserve metal, asbestos fiber mixed with cement is made into sheets of 48″ x 96″—3 16″ thick for the construction of air ducts in ventilating systems.

MATERIALS

Powdered metals are being used for the formation of small parts. The powder of steel or bronze of proper composition is briquetted in dies of the proper form under high pressure for one to 15 seconds and the briquette is then sintered to bond the metal. After this the part is sized by pressure or machining and then heat-treated. Because of the exactness of the die little further work is required. In the case of 20,000 sets of parts for a gun-mount requiring 90 parts per set approximately 5,000,000 man-hours were saved. The products of powdered metal have strength equal to those of the parent metal with the hardness desired for use. Bronze from powders can be made with a tensile strength of 12,500 psi and a compressive strength of 230,000 psi, while iron from powder has a tensile strength of 35,000 psi. and 150,000 psi in compression.

Mechanite which is a special form of cast iron has been used successfully for the crank shafts of Diesel engines up to 9½-inch diameters and for machine tool cutters after tips of cutting materials are brazed to the cutter. Both of these uses free large amounts of critical steel.

The 100,000 hour Creep tests at 842 F. made on four bars of alloy steel (S.A.E. 4330) were reported although completed by the General Electric Company on Oct. 2, 1942. The steel contained 0.31 per cent C, 2.05 per cent Ni, 0.83 per cent Cr, 0.45 per cent Mo, 0.054 per cent Mn, 0.11 per cent Si. It was heat treated, 1517 F. furnace cool, 1247 F. oil quench, 749 F. furnace cool. Tensile strength 111,800 psi; elastic limit 83,000 psi; elongation, 22.5 per cent; reduction of area 59.5 per cent.

The total plastic deformations (exclusive of elastic deformation) in 100,000 hours were as follows:

at 13,500 psi, 9.5 mils per inch
at 17,000 psi, 14.0 mils per inch
at 21,000 psi, 27.5 mils per inch
at 25,000 psi, 41.5 mils per inch.

There appeared to be a change in the creep rates at 2,000 hrs. and 100,000 hrs. and neither of these agreed with the minimum creep rate.

In the making of ply-wood, steam heaters or electric heaters have been inserted at proper intervals in the stack for heating the product and setting the glue. The new method of using a high frequency electric field provides a uniform temperature at once and heat permeates the mass uniformly. The wood or veneer assemblies are stacked between insulated electrodes with an intermediate electrode in the center of the stack. The first two electrodes are attached to one terminal of a high frequency altimeter, the other terminal being attached to the central electrode. When the generator is operated the stack of wood acts as the dielectric of a condenser immediately and there is set up, throughout the mass, heat from conduction as well as from the molecular movement due to the electro-static field.

To shape ply-wood into a warped shape a shaped die is made of concrete or other material and surrounded with a withholding metal shell. A tight bag is then placed in this container and above the ply-wood to be formed over the shaping body, and compressed air or steam is admitted into the bag which permits this hydrostatic pressure to be exerted uniformly over the ply-wood and bring it into the required shape. Ply-wood of ½-inch thickness is used for lining new refrigerator cars with steel underframe and with four-inch fiber glass insulation.

To improve the fatigue strength of machine parts the surfaces have been finished by honing to remove sub-microscopic notches and also by pre-stressing the surface by peening, swaging, tumbling, or subjecting the surface to pressure from balls or rollers.

The chromium plating of piston rings to an excessive amount and then the removal of part of the layer by the reversal of current has given rise to the name porous chromium plating which reduces friction and wear and leads to greater tightness.

The largest head for a pressure vessel to date has been fabricated by the Lukens Steel Company out of 2¾ steel plate. The elliptical dished head has an outside diameter of 15′-2″. The flange is 3″ deep and the rise of the ellipse is 44½″. It weighs 34,370 pounds and was fabricated out of two steel plates 116″ x 232″ which were rolled on the 206″ mill of the Lukens Company, the largest in the world. The plates were sent to the Kellogg Company at Newark, N. J., for which the heads were made, for welding, and then the 230″ round discs were returned to Lukens at Coatesville, Pa. on specially prepared railroad cars and spun into shape. This spinning required five heatings in a specially built furnace during the final shaping.

Lukens has also rolled on the 206″ mill a sheet 190 9/16″ wide by 316¾″ long for the construction of a fractionation tower 13′-6″ in diameter and 123′-8″ high. The sheet which was 27/64″ thick weighed 8,513 pounds and the tower 360,000 pounds. The Lukens Company has also developed clad steels in which nickel, monel metal, or other corrosion resistant metal is rolled into the steel plate.

Malleable iron is used extensively in the construction of ordnance, releasing steel formerly used. The physical properties of malleable iron have been so improved and stabilized that this material is most suitable for certain machine parts.

Alloy steels have been tested in steam at 1800 F. and with the exception of steels containing 25 per cent Cr and 15 per cent Ni or 25 per cent Cr, 20 per cent Ni and 2 per cent W corrosion has been excessive, in some cases complete. After 1,300 hours at 1776 F. the first steel showed 0.11 per cent corrosion and the latter 0.20 per cent. At 1500 F. less corrosion occurred in all steels.

BIG INCH PIPE LINE

The 24″ pipe line, 1,370 miles long, to bring crude oil from Longview, Tex. to New York and Philadelphia, was made up of lengths of 40 feet, welded and spirally wrapped with two layers of asbestos felt, and placed in a 4-foot ditch, two feet deep. From 350 ft. above sea level it reached a maximum elevation of 2,900 feet in crossing the Allegheny Mountains in Pennsylvania as it was carried to Phoenixville, Pa. where it divided into two 20″ lines to the terminals. The line will carry 300,000 barrels of crude oil per day. The flow is six feet per second or 100 miles per day, requiring 14 days for transit. To overcome the pipe friction, which amounts to 13.75 psi per mile, electrically driven centrifugal pumps are placed in 24 stations at intervals of 50 miles. These use 800,000 kw. hr. per year. In each station three double flow single stage pumps are placed in series. These are operated at 1,780 r.p.m., and each develops a head of 630 ft. or 230 psi at 8750 g.p.m. for flow. The pressure of 690 psi at each station will care for the friction in 50 miles. Each pump is driven by a 1500 hp. 2300 volt-3-phase motor. The 24 stations necessitated the construction of 204 power lines from various utilities.

The oil has a specific gravity of 0.84 and is known as 60S S U crude oil. The filling of the pipe required 4,000,000 barrels of oil.

INSTRUMENTS AND RESEARCH

The Cities Service Research Laboratories have developed an instrument called a "Heat Prover" for securing an indicator card from high speed Diesel engines and at the same time a sample of exhaust gas, which is mixed with hydrogen to determine excess oxygen and in another compartment with air to determine the carbon monoxide by use with heated wires, the change of resistance of which owing to the combustion of the gas mixture, can be calibrated to give the excess oxygen or the unburned fuel.

For the determination of smoke from Diesel engines an 18-inch tube is used to take a continuous sample of exhaust from one end to the other and by a photo-electric cell at one end the amount of light received from a strong light source at the other end, the current of zero to 100 micro amperes can be interpreted into percentage smoke. When the instrument indicates 50 per cent smoke the exhaust discharge is hardly darkened.

For measuring temperature of hot gases at 1000° F. to 1800° F. a shielded thermocouple must be used as the error without a shield in 40° F. at 1000° F. and 170° F. at 1800° F. With a quadruple shield the errors are reduced respectively to 10° F. and 20° F.

A thermal anemometer has been developed to be used between 15 f.p.m. and 3000 f.p.m. consisting of a one-inch ball with a battery operated heating coil and a ½-inch ball a short distance from it and connected to it by a wire. A thermocouple between the two balls determines the rate of cooling of the large ball as the smaller one remains at constant temperature. The rate of cooling and the time can be interpreted into velocity of the air which removes the heat.

An instrument for the recording of surface roughness of a finished metal surface has been developed by the use of the bending of a crystal which so varies the voltage that after 100,000 amplifications an oscillograph film can be interpreted into roughness.

The coefficients of dynamic viscosity of nitrogen have been determined at Purdue University for pressure vibrations from 14.7 psi to 1020 psi and at temperatures of 68°F. to 923°F. The values vary with temperature from 1.8×10^{-2} to 3.38×10^{-2} at 14.7 psi while at 1000 psi the variation is from 1.8×10^{-2} to 1.96×10^{-2}.

For the study of sprays, such as those which occur in Diesel fuels on discharge from nozzles, the Westinghouse Company has developed a method of photographing these by a 5500 volt spark in one ten millionth of a second. The photograph is then enlarged 65 times.

The Aluminum Company of America uses record films from 43 spectrographs to analyze materials in its various plants. Sparks are produced by high voltage from a carbon rod on the flat side of the sample in the spectrograph and the spectrum is photographed on film. The film is then placed in a densitometer, and the lines of the projected image on a screen are then scanned by a photoelectric cell and indicates the kind and intensity of light from the lines. By means of a calculator they can then translate cell reading into elements and percentages of them. This can be used to give information for production or to identify specific alloys when designations or stampings are missing from stock.

ELECTRICAL ENGINEERING

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SCOPE

This section includes a review of progress and developments in the production of electrical energy and equipment, electronics, communication (except for radio and sound equipment, which are covered in another section), and research. As was the case for reviews in the few preceding years, this review can not present a true account of developments since the most important work which is in connection with the war effort is not available for publication. For this reason, the reader will discover the review of a less technical nature than might be expected. Much of the work that has been reported has to do with operating and manufacturing procedures imposed directly as a result of material and equipment shortages. The various engineering organizations have been particularly active in collecting, assembling, and publishing all available data concerning these procedures in order to aid in relieving some of the more serious situations which have resulted.

GENERATION

Public utility companies appeared to be meeting the demands for electrical energy, although in a few instances interconnections between several companies had been made. It was apparent, however, that more load could be handled by proper interconnection. The peak load for December, 1943, was expected to be 37,724,375 kilowatts, while at least 48,000,000 kilowatts had been installed and were operating. The total amount of electrical power generated for public use for the 12 months preceding June 30, 1943, was 200,858,051,000 kilowatthours. The maximum generated in any one week up to Dec. 1, 1943, was 4,513,299,000 kilowatthours in the week of Nov. 20. This represented an 18.9 per cent increase over the corresponding week of 1942.

NEW CAPACITY

New generating facilities installed in 1943 were reported to amount to about 4,000,000 kilowatts. The largest of the new units was a 125,000 kilowatt turbine generator installed by Public Service of New Jersey. A 65,000 kilowatt turbine generator designed for 3600 r.p.m. and a steam supply at 915° F., 1,050 pounds per square inch, was installed by the Los Angeles Bureau of Power and Light. This unit was designed especially to pick up a full load within a period of one-half minute.

The Tennessee Valley Authority continued to expand by placing two new dams in service. These were the Ocoee and Appalachia on the Hiwassee River. The power generating stations for these dams are located two miles and 12½ miles, respectively, below the dams. Water is carried to the power stations from the dams by means of underground tunnels. The TVA, now ten years old, has an installed capacity of 1,635,000 kilowatts and generates 10,000,000,000 kilowatt-hours annually.

The Bureau of Reclamation opened the Parker dam power plant on the Colorado River with a capacity of 120,000 kilowatts and the Fort Peck dam plant in Montana with a capacity of 30,000 kilowatts. Two generators originally ordered for the Shasta dam were installed at Grand Coulee in order to relieve expected shortages of power in the Pacific Northwest area. These units were rated at 75,000 kilowatts each. Another generator, rated at 108,000 kilowatts, was also installed at Grand Coulee, bringing its capacity to 700,000 kilowatts. The tenth and last generator at Bonneville dam was installed on Dec. 1, bringing its total to 518,400 kilowatts. The total installed capacity in the Bureau of Reclamation projects is now 1,875,000 kilowatts.

One of the world's largest hydroelectric power developments is that on the Shipshaw River in Canada, which was recently placed in operation. The single plant will have an ultimate capacity of 1,200,000 horsepower. The entire output is being used in the production of aluminum.

MANUFACTURING

Reports from three of the largest manufacturers of electrical equipment of total sales billed for the first six months of 1943 were $626,871,716, $322,559,295, and $106,162,952. These represented increases over the corresponding period of the preceding year of 52 per cent, 35 per cent, and 20 per cent, respectively.

WARTIME RATINGS OF ELECTRICAL APPARATUS

The restrictions imposed by the war have made it difficult or impossible to obtain some types of new electrical equipment. In order that increased electrical power loads which are a result of war production may be handled adequately, the American Institute of Electrical Engineers has sponsored an extensive survey and analysis of what has been done or what can be done by operating companies and manufacturers to increase permissible loadings of present equipment above name-plate ratings or normal practices. This data is being published in a series of reports known as "interim" reports on the following topics: capacitors, power cables, circuit breakers and switchgear, generating equipment and systems, system grounding impedance, industrial-power distribution systems, electric motors and motor controllers, automatic reclosing equipment on stub feeders, power-transmission systems, power transformers and regulators, distribution transformers and regulators, and current-limiting reactors. It is intended that at the close of the war these data will be reconsidered and either adopted for standard practice, altered, or discarded.

Methods of increasing the life of electronic devices were discussed in a special conference. In general, the manufacturer's rating on tubes should never be exceeded, and, in some types, reducing the load 10 per cent or more will considerably increase the life of the tube. Mercury-arc rectifiers should not be operated over their ratings as many of them have been designed recently and, therefore, are rated for operation in present war conditions.

CONSERVATION OF MATERIALS

In order to save critical materials, the War Production Board has from time to time issued limitation orders reducing sizes and types of various manufactured articles. In the electrical industry, these orders have affected incandescent and fluorescent lighting fixtures, mechanical water coolers, x-ray equipment, insulated wires, and many types of appliances. During the year, electrical range production was entirely stopped, the use of copper on some devices for purposes other than wiring was banned, and the use of steel, copper, and brass in secondary electrical equipment was restricted. A notable example of substitution of one material for a critical material is the use of glass jewels in place of sapphires in electrical meters. Many other specific cases of conservation of or substitution for critical materials have been published from time to time in the various periodicals.

The WPB ordered that new electric motors should not be larger than necessary for the specific job for which the motor was purchased. It further specified that motors be the simplest type applicable to the particular requirements. This order was expected to save 15,000,000 pounds of copper, 55,000 tons of carbon steel, and 150,000 pounds of stainless steel annually.

Instrument transformers have been redesigned to conserve critical materials. It was determined that some of the accuracy and output of standard transformers could be sacrificed in many applications. As much as 57 per cent copper and 58 per cent steel were saved in one model.

TRANSFORMERS

The largest transformers ever built were placed in service in 1943. These were rated at 75,000 kva. Special provision was made for use of forced air cooling which would enable raising the rating to 150,000 kva.

High voltage power transformers employ a new form of construction known as "distributed concentric" construction. This design is adapted from one previously used in Europe and employs concentric barrel coils placed over each other. The high voltage winding is well shielded. Advantages of the design include reduced inherent reactance, adaptability to forced cooling, and simple mechanical construction.

A new equivalent circuit for a five-winding transformer was developed. Equivalent circuits are used to analyze the performance of electrical circuits and are extremely useful for transformer designs. The equivalent circuit for the two-winding transformer is well known and relatively simple to use. However, as the number of windings increases, the calculation of transformer performance becomes much more complicated. It is claimed that sufficient accuracy is obtained by using this analysis for most power circuit problems. The equivalent impedances may be measured at the terminals of the transformer. This equivalent circuit was designed so it could be set up on a calculating board.

Substantial reduction in the size of potential transformers has been obtained by improved methods of insulation and shielding. Oil impregnated paper has been substituted for a combination of liquid and solid insulation. Formerly, potential transformers had been designed similar to power transformers. The new design is possible principally because relatively little heat is developed in a potential transformer. A 69-kilovolt transformer has been reduced in weight by 40 per cent and in oil capacity by 16 per cent.

A system for automatic parallel operation of load-ratio control transformers has been presented in which load current and circulating current are made to follow in separate paths so that each can control the operation independently. The method results in stability of operation and permits switching transformers in and out of service without disturbing voltage levels or causing excessive circulating currents.

Another result of the war likely to cause permanent changes in design concerns transformer tanks. The tanks have been constructed fitted to the transformer core in such a way that considerable saving in steel and necessary oil content has been effected. This design was applied to transformers which were mounted on power supply barges where space and crane capacity were limited. The oil content has been reduced by one-third; the overall weight has been reduced 20 per cent. In order to service the transformer, it is only necessary to cut open a weld near the base of the transformer; then, the upper part may be lifted off, whereas in former designs it was necessary to lift the core and coil assembly out of the tank.

A simple device has been designed for protecting secondary windings of current transformers from overvoltage. Essentially, it consists of a nonlinear resistance element connected in the secondary circuit so as to limit the maximum potential across the coil in the event of open circuits or certain types of switching transient conditions. It is claimed to have the advantages of repetitive operation, permanent characteristics, no time lag, small size, and can be applied to current transformers in use.

SWITCHGEAR

A new type of switch has been developed which may be used for the purposes of disconnecting and interrupting; that is, it may be opened while under normal load conditions. It has a continuous rating of 15,000 volts, 600 amperes, and is constructed so that in the process of opening the switch an air blast is generated which extinguishes the arc in an arc chute. This switch is designed for use on distribution systems having a single circuit which is divided into a number of smaller circuits, all of which are protected by a single circuit breaker. Thus, to isolate one of the smaller circuits, it is not necessary to remove load from all of the circuits. These switches are, of course, not designed to interrupt fault currents; hence, there is a possible hazard to personnel and equipment should the switch be opened during a fault. Therefore, the probability of operation of the switch when the circuit is under fault conditions should be considered before this type of switch is installed.

Single pole circuit breakers are now being produced on a commercial basis. These devices operate without attention to open a single phase line in case of a fault. After opening the fault current, the device automatically recloses the circuit, and, if the fault is not cleared, the device will repeat the operation. The device operates with a stored energy mechanism and will perform three reclosing operations. The energy used is replaced by a motor after a successful clearing operation. A number of these devices have been installed on systems financed by the REA. Their performance has been studied and reported, and indicates satisfactory operation. Each breaker served about 20 miles of line and successfully cleared 95 per cent of the faults.

Recent developments in the science of arc interruption in oil have resulted in a new design of high voltage oil circuit breakers. A satisfactory 230 kilovolt breaker having an interrupting rating of 2,500,000 kva has two interrupting units per pole. Previous breakers of this rating required as many as six interrupting units per pole. This breaker will interrupt within three cycles. It is based upon the principle that the power dissipated in the arc at interruption should be a minimum and that the rate of deionization following a current zero should be a maximum. A system of orifices is arranged to force cool oil to flow along the arc formed at one set of contacts. An arc formed across another set of contacts is used to generate pressure which causes the oil flow.

Oil impregnated paper was substituted for shellac or synthetic resin coated paper for the insulation of condenser bushings. This development, started before the war, has been completed ahead of the original schedule because shellac is now almost impossible to obtain. The new bushings are completely interchangeable with the former types and have been built for voltage ratings from 92 kilovolts to 230 kilovolts.

A high speed balanced current relay has been developed which overcomes difficulties caused by current transformers containing residual magnetism. This has been accomplished at the expense of a delay of approximately one cycle in the operating time of the relay due to a resonant circuit which is incorporated in the design of the relay.

High voltage surges are frequently generated during switching operations. These surges sometimes become large enough to damage equipment and, furthermore, may cause circuit breakers to fail. In a particular installation of a large power company, this hazard was apparently overcome by placing resistors across the contacts of multibreak interrupters used in switching.

CAPACITORS

Capacitors may frequently be used across circuit elements having reactive components to increase maximum loadings. A special committee was formed to study the problem in connection with wartime conditions. In general, the use of capacitors is economical, reduces system losses, saves critical material, and has little effect on regulation. Capacitors are also readily portable. However, each application must be studied as instability or overvoltage might result from their use.

Mobile capacitor units have been used for emergency loading of transformers connected in open delta. In particular, if one set of transformers which are loaded to capacity and connected in closed delta fails, the two remaining transformers become considerably overloaded. If capacitors are properly connected across the two transformers, the load on each of them may be balanced so that the addition of forced air cooling will result in safe operation. Their use permits relatively short service interruptions in case of transformer failure and a reduction in the number of transformers required for emergency use.

Capacitors are also being used to increase the permissible loading of power transmission lines. Although this use of capacitors is not new, recent developments of high speed relays and reduction in cost of apparatus have made the scheme practical. Many of the shorter lines (up to 150 miles) now in use can have increased power stability limits merely by adding these units in series in the line. Longer lines need to be designed for their use before they are put up. Some of the longer lines would not be economical without their installation.

MOTORS

Oil is pumped through the Big Inch pipe line which was installed in 1943 by means of electrical energy estimated at about 750,000,000 kilowatt-hours per year. There are 25 pumping stations each of which has three 1,500 horsepower induction motors. Two hundred miles of transmission line had to be constructed to supply these motors. The oil transporting capacity was expected to equal that of 30,000 railroad tank cars.

Another oil pipe line, known as the Plantation Pipe Line, is in service. This line uses 900 horsepower, 3,600 r.p.m. motors in the pumping stations. These motors are of the squirrel cage type and are the largest explosion proof motors ever built.

A relatively small high-speed motor has been developed which delivers 5 horsepower at 60,000 r.p.m. when supplied with current at a frequency of 1,000 cycles per second. Special air-hardened chrome iron was used for the rotor. The motor is water cooled.

MOTOR CONTROL

Elaborate systems of electronic control of direct current motors have been announced by two manufacturers. These controls have been applied to a number of industrial processes. Features provided by these devices are constant speed under varying load conditions and over a wide speed range (as great as 20 to 1), uniform acceleration, and automatic dynamic breaking. The device makes use of a well-known principle, namely, grid voltage phase control of gas tubes.

The increased use of electric arc furnaces in recent years has justified the development of more accurate devices to control the required electrical energy. Systems in operation obtain the control by adjusting the furnace electrode positions. Current flow in an arc furnace is extremely variable and complex. In order to have adequate control, rather sensitive electrical circuits must be made to raise and lower the heavy electrodes. Stable operation has been accomplished with the use of standard motor regulators.

AIRCRAFT EQUIPMENT

The war has given a tremendous impetus to aircraft construction, and many new instruments to aid in navigation and warfare have been developed. Most of these devices depend upon electrical circuits for their operation so as to require relatively large amounts of electrical power. Many problems have arisen, and some of these have recently been discussed in published papers.

In particular, the increased power supply requirements may be dealt with by generating alternating current and then converting to direct current by means of converters or rectifiers. Several such systems have been built and are discussed in a paper reporting current development.

The design of 24-volt direct current generators for aircraft require solutions of certain electrical and mechanical problems which arise because the generators must operate in varying altitudes and atmospheric conditions. Also to be considered are accelerating forces set up by the plane and vibration caused by the engine.

Some of the instruments require 400-cycle alternating current. This power may be supplied by means of various types of inverters. The relative merits of each system are outlined. Other papers describe aircraft circuit breakers, manual switches for aircraft, aircraft contactors, principles of aircraft motor protection, radio noise filters applied to aircraft, aircraft transformers, parallel operation of airplane alternators, and high-voltage ignition cable design.

POWER RECOVERY TESTING

The testing of large aircraft engines as they come off production lines requires the absorption of large amounts of energy. The method of loading rotating equipment which is undergoing test with an electrical generator to recover a large amount of this energy is not a new idea. However, it has recently been applied extensively in the aircraft industry and is known as the power recovery system for testing aircraft engines. Specifically, the motor may be coupled to a synchronous generator by means of an adjustable slip coupling which may be either of the magnetic or hydraulic type, or it may be direct coupled to an induction generator. Apparatus of each of these types has been installed and found to be generally satisfactory. The output from the generator is fed into the distribution lines in the manufacturing plant. As these tests require a rather complete testing of the engine in order that it may be immediately installed on the airplane and be ready for service, large amounts of energy are recovered. In one instance, over a period of three days, 57 per cent of the total plant power requirements was supplied from the power recovery apparatus.

WELDING

Electric arc welding requires a low-voltage high-current source of electrical energy. In making a weld, it is important to maintain a continuous arc from the time the arc is struck until the weld is finished. Frequently, because of line voltage changes or faulty manipulation on the part of the welder, the arc is lost and has to be re-struck. If it is necessary to re-strike the arc, the weld is usually poorer than if it had been done properly without re-striking. To reduce the possibility of losing the arc, welding apparatus has recently been built, for application to aviation manufacturing, which has a high frequency voltage supplied to the welding electrodes along with the lower-frequency high-current supply. This high frequency voltage is generated by a spark oscillator and is designed to supply a high voltage surge at the time the normal alternating welding current passes through zero. Thus, if conditions are such that the arc might be lost, the auxiliary voltage will cause it to be immediately re-struck, and a continuous weld will be made.

Helium gas has been used in arc welding to prevent undesirable effects of oxidation. The gas is made to flow into the immediate vicinity of the weld in a manner which keeps the air away from the critical area. The whole process is electronically controlled, and the automatic equipment also feeds the welding material into the arc at a predetermined rate. As much as 40 inches of weld per minute may be made on ⅛ inch stock.

An automatic arc-welding-machine starter has been designed to start the arc welding machine just before the welding operation is begun. This obviates the necessity for having the machine run over long periods of time during which a weld is not actually being made. Power savings as great as 25 per cent have been realized, and, in addition, the reduction in the average demand on distribution systems is great enough to allow as many as 75 per cent more machines to be added on the system.

For resistance welding, an automatic voltage compensator has been developed which minimizes the effect of line voltage variations. Phase shift control of ignitrons is used to maintain constant current in the weld. The application of this device is especially important at the present time as it allows welding machines to perform satisfactorily on heavily loaded distribution lines. The operation is entirely automatic and performs satisfactorily for any initial current setting.

ELECTRONICS

It was anticipated that over 25,000,000,000 kilowatt hours of energy would pass through electronic devices in 1943. This illustrates the increasing importance of electronic equipment in industry and war production. The Army demanded $3,250,000,000 worth of electronic equipment in 1943 and expected a need of $4,500,000,000 worth in 1944.

Electronics has been used to measure hunting of rotating electrical machines. A system of mirrors attached to the machine rotor sends pulses to a photo-cell. The number of these pulses is proportional to the speed so that the number varies when the rotor speed changes, as it does when hunting occurs. An electronic circuit connects the photo-cell to an oscillograph and produces a deflection proportional to the number of pulses. Variation in speed of the rotor may be observed.

The United States Army is using high frequency current to remove as much as 99 per cent of the moisture from vegetables. It is reported that vegetables dehydrated in this manner will be preserved more than one year even in humid climates, and, after they are soaked with water, they may be cooked and served so as to have normal taste and aroma. At present, most of the moisture is removed by conventional methods. The remaining moisture is removed by the electronically generated high frequency energy.

TELEPHONE

A new automatic system of cross-bar toll switching was installed at Philadelphia in August, 1943. In this system local operators in Philadelphia may place long distance calls to certain cities without contacting intermediate operators in Philadelphia. The local operator selects the city desired by means of a key set or dial system. Toll line dialing may also be used in this system to establish a connection in a distant city. The development of this system has been hindered by the war, but its installation in this particular case was expected to relieve congestion in the toll office.

The installation of the longest underground telephone cable was completed in December, 1942. This line runs between Omaha and Sacramento, a distance of 1,600 miles. The line was expected to give more reliable service than present open wire lines, and, consequently, it is of particular value in war time.

TELEGRAPH

"Teleprinter" apparatus, by means of which telegraphic messages are directly printed in the offices of telegraphic subscribers, has been restricted to companies requiring a relatively large amount of service. This restriction is largely owing to the expense involved in installing the teleprinter line wires required. In order to reduce the cost of installing such equipment, the telegraphic company has developed a "subcenter" switching system by means of which several subscribers who are in the same general locality may use the same teleprinter tie-line circuits. This, of course, does not permit continuous use of the teleprinter equipment by one subscriber, but recent study has shown that, in many of the installations then in service, the apparatus was used only a relatively small percentage of the time. As many as 375 subscribers may be served by one of the switching units.

RESEARCH

In accordance with advances in the composition and production of synthetic rubbers as well as the shortage of crude rubber, the War Production Board issued specifications requiring certain amounts of synthetic rubber to be included in certain types of wire and cable. For some types no crude rubber is allowed. It is expected that there will be no observable physical difference between wires made of synthetic and crude rubber.

Since it is impossible to predict exactly when arc back will occur in an ignitron, a memorizing machine has been developed which will record the arc back for as long as 1/30 of a second. This allows enough time to start the film on an oscillograph, which may then be used permanently to record the phenomena. Without the use of this memorizing machine, it would be necessary to keep the oscillograph running continuously. Thus, much film would be wasted during the periods in which no arc back occurred. The memorizing machine is an ordinary D. C. motor in which the armature windings have been replaced by capacitors which are connected to the commutator bars. One of the commutator brushes is used to receive voltage from the ignitron and store it in the armature capacitors. The other brush discharges the capacitors through the oscillograph. The oscillograph is set in motion by an electron switch which is initiated by the arc back phenomena itself. Thus, the oscillograph only operates when arc back is occurring.

A large induction electron accelerator has been recently completed in the research laboratory of the General Electric Company. There are reports that 100,000,000 volt x-rays were produced for the first time in the history of science. Preliminary observation indicated that characteristics of these x-rays are much different from characteristics of ordinary x-rays which have previously been studied.

RADIO

By C. B. Jolliffe
RCA Victor Division, Radio Corporation of America

RADIO AS A WAR INDUSTRY

Radio in 1943 continued as a war industry and was completely on a war footing. Manufacturing was almost entirely for government order, whether for our own armed services or for those of our Allies or for lend-lease requirements. No civilian radio equipment was manufactured except a small amount for replacement purposes. Broadcasting activities were shaped largely by the requirements of news dissemination and discussion, Army and civilian morale, and discussion of current and anticipated problems. Radio communication under strict regulation has been concerned largely with the furthering of wartime activities both of the Armed Forces and of the other phases of the war activities.

GOVERNMENT CONTROL OF RADIO AND WIRE COMMUNICATION

The Board of War Communications continued its control of radio and wire communication. This Board, consisting of representatives of the Departments of War, Navy, State, and of the Federal Communications Commission, provided one instrumentality whereby the needs of the various services could be reconciled and worked out in a consistent manner. The regulatory features as required were carried out by FCC in accordance with its normal functions.

A third governmental body, The Interdepartmental Radio Advisory Committee, known as IRAC and consisting of representatives of all those branches of the Government utilizing radio facilities, was active during 1943 in the study of the utility of different portions of the radio spectrum, and the needs of the government departments for such facilities. It is only those portions of the spectrum which the Government does not reserve for its own use that are available for all the commercial and other non-governmental radio services, including broadcasting and radio communications. The increased use of radio in war activities both at home and in the field has increased enormously the demands of Government for space in the radio spectrum and made the situation more difficult for non-government users. This is forcing more thorough analyses of the characteristics and utility of radiations throughout the spectrum, as well as a new appraisal of the needs for radio service in different fields.

PLANNING FOR THE FUTURE

Industry also began planning for the future. In the late autumn, there was organized the Radio Technical Planning Board under the joint sponsorship of the Institute of Radio Engineers, Radio Manufacturers Association, American Radio Relay, FM Broadcasters, Inc., National Association of Broadcasters, and American Institute of Electrical Engineers. It is the purpose of this Board to study and recommend to the Government and industry action on fundamental technical questions having to do with after-the-war planning in the fields of allocation, broadcasting, communication and aviation, and other radio and related services. The work is divided among 13 Panels, the members of which are to represent a broad cross-section of the industry and the radio engineering profession. On Nov. 17 there was held at the request of Chairman Fly of the FCC a joint conference of IRAC, RTPB, BWC, and FCC at which there was a discussion of the functions and activities of each organization and of the methods for the most complete cooperation among all parties.

DOMESTIC BROADCASTING

During 1943, the trends indicated for 1942 continued with increasing force. News reports, war analyses, reports of activities of the Armed Services abroad as well as at home, reflected the increasing tempo of the nation's war activities.

Some relief for the tightened trained personnel situation was afforded by the War Manpower Commission in the classification of essential employment in broadcasting as an essential industry. However, many stations have had to operate with staffs reduced to the point of inefficiency and by grace of extra effort on the part of the residual staff. In spite of these difficulties of personnel and the lack of maintenance materials, the broadcasters as a whole have given their best to the furthering of the war effort and to the sustaining of the morale of the people. Broadcasting has truly been an essential industry.

On Oct. 14, 1943 the sale of the Blue Network to Edward J. Noble and the American Broadcasting System was completed by RCA. This sale marks the final corporate separation of the former NBC blue network from the parent Company.

NEW BROADCASTING RULES

On May 10, 1943 the Supreme Court upheld the new broadcasting rules promulgated by the FCC. The chief points involved were the elimination of option time of the stations on the part of the network, and what is effectively a prohibition against any company owning or controlling two networks. In consequence of these moves, the suits by the Department of Justice and the Mutual Broadcasting System against the RCA and CBS were dropped. Very wide powers were said by the Supreme Court to be implied by the clause in the radio law dealing with "public interest." During the latter part of 1943 this whole situation was being investigated by Congress in a study of the need for modifications of present radio law.

BROADCASTING STATIONS

Interest in high frequency or FM broadcasting continued very active during the year. Owing to the freeze of materials and the consequent lack of equipment, no new stations were built during 1943 except as equipment had previously been made available. The FCC on July 6, 1943, as a war measure, removed the requirement that all FM stations must broadcast a certain amount of material not simultaneously broadcast by a station using the standard band. This simplifies program preparation for the FM stations.

TELEVISION

Television, like FM, marked time during the year. All of the stations operating in 1942 continued in 1943, and toward the end of the year there was increased attention given to program content and to the amount of service available. At the close of the year there were three television stations in regular operation in New York City, two in Hollywood, Calif., one in Schenectady, N. Y., one in Philadelphia, and two in Chicago. Programs originating in New York were rebroadcast regularly by the stations in Philadelphia and Schenectady.

Increased interest in the future of television was manifest in the latter part of the year and was reflected in the literature and in discussions by members of the industry.

The refusal by the American Federation of Musicians to make transcriptions or other records which became effective Aug. 1, 1942 continued through 1943 except for a few manufacturers who met the terms of the Federation.

INTERNATIONAL BROADCASTING

The year 1943 saw a steady development of shortwave programming from the United States. Operations are under an arrangement whereby, as of Nov. 1, 1942, the Federal Government became the sole lessor of time on all the shortwave broadcasting transmitters in the United States. The private companies work closely with government agencies. The Office of War Information is concerned with broadcasts to all foreign countries except those in Latin America. The Coordinator of Inter-American Affairs (CIAA) supervises the broadcast activities to Latin America.

TRANSMITTER CONSTRUCTION PLAN

While the transmitter construction plan mentioned in 1942, which was expected to be completed by the middle of 1943, has not been realized fully, several new transmitters have been added and antenna improvements have been made both on the Atlantic and on the West Coasts. The original plan has been partially executed, but unexpected delays, particularly in the delivery of critical material, will carry its completion over into 1944.

The Special Service Division of the War Department was developed in 1943. This Division is responsible for the preparation of shortwave broadcasts to the armed forces. In addition to entertainment programs culled chiefly from network favorites, the SSD writes and provides news especially for the Armed Forces.

The year saw also the effective development by the United Nations of medium wave broadcasting in and from Africa and shortwave broadcasting to and from Africa. Effective use has been made of transmitters in Italy. Undoubtedly the pattern has been laid for the progressive utilization by the United Nations of short and medium wave transmitters on the European Continent as occupation progresses. Briefly, the year 1943 has seen an important extension in the range of the "voice of the United States."

BROADCASTING COOPERATION

Throughout the world today there are Americans who work closely with broadcasting officials of the other United Nations and with the authorities of the American Armed Forces. The correlation of reception data and program information received from them has contributed to the steady improvement in technical and program conditions. All of this information is serving the OWI in its task of coordination. The monitoring of foreign shortwave programs has been organized so that regular reports are available to shortwave broadcasters from the United States.

In Latin America, the field of the CIAA, a great degree of cooperation is possible. Broadcasting representatives from Latin America visit this country from time to time; the broadcasting networks here are in constant communication with their affiliated organizations to the south, and exchanges of ideas, of technical information, and of program suggestions are constant. This part of the shortwave activities of the United States remains, despite necessary wartime restrictions, more nearly normal.

SERVICING

More than ever before the matter of the servicing of home receivers was in 1943 of vital importance. Certain components, particularly tubes, became very scarce and an increasing proportion of receivers became unavailable for use. Efforts were under way at the end of 1943 to make available a somewhat larger supply of essential components and particularly of tubes. Other receivers, particularly portables, went out of service because of the lack of batteries for their operation. Some help was given during the year to the users of farm radio by the somewhat increased supply of batteries suitable for their operation. However, the outlook for 1944 for the operation of home receivers is one which indicates that many home receivers will be out of service for considerable periods.

POLICE AND AVIATION

New installations of police radio equipment have been made where sufficient cause has been shown to justify the allocation of the necessary equipment. In a high percentage of instances, these installations were extensions of systems already in use. Most of the newer installations utilize frequency modulation.

The greatly increased use of radio in aviation both for control and for communication began during the year to be reflected in the planning of the aviation industry for post-war. The greatly increased number of airplanes and airports, and the increased number of radio aids available, indicate that aviation will occupy a position of greater importance in the radio field than ever before. The needs of aviation, particularly in the higher regions of the spectrum, will have to be given full consideration. This situation will require full consideration not only with respect to the domestic situation but will be reflected in international agreements and allocations since the air ways, like radio, are not bound to a particular continent.

ELECTRONICS

Although radio devices and radio methods have for years been used in non-radio fields, the year 1943 saw a rapidly increasing interest in and development of this field. Many of the manufacturers, who over a period of years have been developing such equipment for numerous applications, began to tell their story and to stimulate interest in the use of electronic methods for industrial operations and controls. Some of these were stimulated by the need for better methods of making war equipment, while others were being studied for post-war application.

The use of radio frequency for heating has been applied to various industries. Thermo-plastic gluing, pre-heating of plastics for molding, surface hardening of metals, automatic soldering, tin coating and welding are some of the applications of radio frequency heating that have been made and show much promise. Standard radio frequency generators designed for industrial applications have been developed and have been offered for sale.

TECHNICAL PROGRESS IN SOUND EQUIPMENT

By M. C. Batsel
Radio Corporation of America

SOUND AMPLIFYING EQUIPMENT

The increased use of sound amplifying equipment in the military and industrial fields during the year was especially noteworthy and is establishing a trend for the post-war period. The use of sound systems in industrial plants has greatly increased, due to its now recognized effectiveness in personnel morale building, and the increasing of plant efficiency. This results from having practically instantaneous communication to all personnel. "Music in Industry" surveys made by governmental agencies have confirmed the importance of these systems. These surveys stimulated the usage of industrial sound systems, and helped in obtaining War Production Board release of materials for the construction of this type of equipment for defense plants.

The evolution of the use of sound systems from paging to morale building by the use of planned employee programs has been especially outstanding. These programs have had a favorable effect on the labor-management relationship and similar programs may have a more pronounced effect in the post-war period.

The trend in equipment design is toward higher quality reproduction of music and improved intelligibility in noisy factory areas. Coupled with these improvements has been the trend to more rugged equipment built to withstand the continuous use and severe operating conditions encountered in industrial installations. Special sound components are being designed for industrial usage.

The military requirements for sound equipment especially designed for use on navy vessels, in army camps, and for group communication purposes have steadily increased, proving the effectiveness of sound communication systems in speeding up military operations. The result of the experience gained in the development of this specialized equipment will be reflected in post-war equipment design which will further increase the effectiveness of sound communication equipment for use in the hospital, hotel, school, industrial, and special institution fields.

35 MM SOUND MOTION PICTURE REPRODUCING EQUIPMENT

During 1943 increased use of sound motion picture reproducing equipment was made by the armed forces of our own and allied governments for training and educational purposes. Due to the urgent demand for equipment for these purposes, no time was available for improvement of designs or incorporation of new developments. Critical materials were eliminated where possible without sacrificing performance or reliability of the equipment. Training time has been cut in half due to the incorporation of visual methods of education. This has established a precedent in educational activity which, no doubt, will exert considerable influence in the post-war period.

While the war has curtailed the building of sound reproducing equipments for commercial use, nevertheless, continued progress has been made toward simplification and improvement of component items comprising theatre sound systems. The possibility of increased post-war application of the "Drive In" theatre idea has caused considerable interest to be shown in improved methods and equipment for presenting this form of entertainment. The trend has definitely been away from centralized loudspeaker systems and is now in favor of the "in car" speaker, wherein a loudspeaker is available to each car.

The equipment being produced for use by the government services is the same as standard pre-war designs, except as modified by new processes, materials, and production methods. These modifications may lead to the production of higher quality equipment than was ever before commercially available.

The increased interest in theatre television indicates a continued research in the post-war period toward the employment of this form of entertainment.

16 MM SOUND REPRODUCING EQUIPMENT

The 16 mm Sound Projectors are finding their way to the most remote corners of the world, teaching, educating, and entertaining not only our own military personnel, but the civilians and military personnel of the allied and conquered nations. The wide distribution and enthusiastic reception given to the 16 mm motion picture and the expansion of the producing facilities will doubtless continue in our post-war period. Due to the physical demands placed upon this type of equipment for military use, most of the development and design work has been directed toward an increase in reliability under all conditions of temperature and humidity met in the field.

BROADCAST SPEECH INPUT EQUIPMENT

Recent developments relating to Broadcast Speech Input Equipment have been in the direction of its application and its importance to mankind, rather than in technical improvement. The world-wide scope of the present war has sent broadcast equipment to the four corners of the earth for the purpose of directing propaganda to our enemy, for bolstering the morale of the peoples of occupied countries, and for the entertaining of our own and allied troops. On the home fronts, broadcast equipment is playing an important role in presenting programs planned to incite plant workers to greater production efforts, to encourage the buying of more war bonds, to aid in the collecting of much needed scrap metals, paper, and other materials, and to promote the recruiting of men and women into the armed forces. It has been estimated that in 1942 American broadcasters and networks donated more than $90,000,000 in time and talent to the Government for the broadcasting of vital messages of the above nature.

Technically, the performance of speech input and associated equipment used in broadcasting has been maintained in spite of the restricted use of certain metals and metal alloys, rubber, specially selected tubes, and a seemingly countless number of components. Using alternate materials, unskilled labor, and overworked manufacturing facilities, design groups and manufacturers have continued to supply the Government and its authorized agencies with speech input equipment still having the high quality of performance found in pre-war days.

With the exception of adapting alternate materials, very few changes have been made in existing designs for present manufacture. Whenever time permits, design groups are working on post-war plans and designs. New methods, materials, and processes developed during the war offer a wide field of selection for the designer of future equipments. The introduction of FM broadcasting and television presents new problems of circuits, equipment design, and styling for the designer to meet. The use of new materials and new designs will result in a higher technical quality of programs broadcast to the American public.

SOUND MOTION PICTURE RECORDING EQUIPMENT

During 1943 the industry devoted its principal effort to the design and manufacture of sound motion picture recording equipment required by the various branches of the armed forces for the production of combat and military training films. This equipment consisted of specially designed light-weight and ruggedly constructed single and double film recording units and standard studio installations. The application of sound motion pictures for training purposes has contributed immeasurably to the training of men and women in the armed services, thus conserving valuable manpower, time, and materials. In addition, motion pictures have played an important part on the home front in the dissemination of war, propaganda, educational, historical, and bond selling information.

New developments in sound recording technique, now available only to the armed forces, will be ready for release to the motion picture producers as soon as the war is over. These developments include light beam modulators, recorders, film phonographs, microphones, and amplifiers.

The use of 16 mm films produced by direct recording and optical reduction made rapid strides during the year, pointing to a general increase in their use throughout the world as soon as equipment can be made available after the war.

NAVAL ARCHITECTURE AND MARINE ENGINEERING

By James L. Bates
Technical Division, United States Maritime Commission

GENERAL

The end of the year 1943 found merchant shipbuilding at its peak of production, fully geared to meet all the known and anticipated demands of the war for tonnage with the minimum interruption to its productive capacity. This is a result of the careful planning which coordinated the myriad activities in producing the materials, equipments, boilers, machinery, auxiliaries, furnishings, etc. and getting them to the shipyards on schedule to be assembled into completed ships.

The need for merchant vessels is still urgent, but it is believed that the curve of production corrected for losses is definitely on the upswing. However, the ever increasing military activity and the pending offensive in the European and Pacific theaters of war has and will absorb this increased available shipping for some time to come. This will, no doubt, require a continuance of the peak production for a period, the extent of which at this time is not apparent.

The changing war needs for vessels and improved output of high power main propelling machinery have resulted in the substitution of the faster

Victory ship for the slower Liberty ship in considerable numbers for delivery in the ensuing year. Also, the number of fast ships of the C type cargo ship and fast tankers are being steadily increased so that should hostilities cease by the end of 1944, a considerable fleet of fast ships will be available.

SHIPYARD WELDING PRACTICES

The prefabrication of large assemblies which characterizes all construction procedures in shipyards and which is made possible by the use of welding, did not undergo any material change in 1943. Emphasis is being placed upon the welding sequences used in making the subassemblies, and in their erection and welding into the growing hull structure on the ways, to insure a hull as free from shrinkage stresses as is possible to attain. The shipyards are becoming more and more conscious of the fact that, while production speed is essential, it is necessary not to sacrifice quality of the finished product for such speed.

A review has been made of the welding practices and procedures used by each of the shipyards building vessels for the United States Maritime Commission. This has resulted in the elimination of certain practices in some yards which were not in conformity with what is now considered good welding procedure. This has tended toward uniformity in applying basic welding techniques and sequences in all yards, without disturbing the overall system of construction used by the individual yards.

TRAINING OF SHIPYARD WORKERS

The training of workers for use in shipyards is still a big problem. The turnover rate of such employees is high, and the inroads made by the Selective Service boards into shipyard personnel present a considerable problem. Also, the needs of other war industries have made it extremely difficult to recruit the additional labor considered necessary to carry on the big shipbuilding programs under way.

The use of women in the various crafts increased by leaps and bounds during 1943 and they now comprise about 12 per cent of the total employees in our shipyards. The reports received would indicate that the women in many classes of work are equal if not superior to men. Of course, the heavy manual work is still being done by men.

Special emphasis is being placed on the training of the supervisory forces of the several crafts in the shipyards. This is particularly true in the case of welding supervisors. It has been realized that a distinct weakness existed in this group, and specific training is being given them to better fit them for their duties. The Maritime Commission has prepared a booklet entitled *Welding Instructions for Use by Welding Supervisors, Leadermen, Etc. of All Crafts Concerned with Shipyard Welding.* This booklet attempts to give the reasons why welding must be sound and why it is necessary to follow faithfully the sequences as outlined in the approved plans and erection procedures.

WELDING RESEARCH

The welding art as applied to the building of completely welded ships is still in its development stage. There are many fundamental factors in welding on which there is little positive data, such as locked up stresses, welding at cold temperatures, stress relieving, etc. The American Welding Society, through its Welding Research Council, has initiated a number of fundamental research projects to obtain data which will make it possible for the welding engineer to predict with assurance the welding electrodes, speeds, currents, techniques, and sequences to be used on a given job so that the finished work will be sound and free from objectionable distortion or locked up stresses. These research programs are being financed by various governmental and private organizations.

There is also under way a research program on full size sub-assemblies of Liberty ships and tankers to determine a method of assembly which will result in the least amount of locked up stresses. It is contemplated to follow material which is to form specific portions of a ship from the unassembled stage through the various stages of sub-assembly, erection in the ship, launching period, at sea, and after a completed voyage to ascertain its behavior under the varying conditions encountered. Also the possible value of preloading a ship to induce hogging and sagging stresses on the hull structure mechanically to stress and relieve it and to locate points of stress concentrations, is being investigated.

PROCUREMENT

The great production records set during the year were made possible to a great extent by centralizing the procurement of material and equipments that go into the ships of the emergency ship construction program. This need was realized at the very outset of the program when the procurement of the first 312 Liberty ships was handled by the Maritime Commission's design agent.

The Maritime Commission took over the entire procurement problem for all subsequent Liberty ships, for some tankers, and for many of the miscellaneous type vessels. All materials, propelling machinery, boilers, auxiliaries, equipments, etc. that go into these vessels, which form the large bulk of the construction program, are thus purchased by a central agency. This permits full utilization of every available source of supply and many new sources of supply have been secured by a thorough canvass of the manufacturing field. For every item needed in the construction of these ships there are available two or more sources of supply, thus protecting the Maritime Commission against any unforeseen stoppage in one of the sources.

Another advantage of centralized procurement which has accrued is the high degree of interchangeability of items made possible by purchasing from one controlling specification. This interchangeability greatly aided the diversion of material from yard to yard to meet the most urgent need. Large quantities in almost every item are involved which permitted of lower prices and the building up of a supply sufficiently ahead to avoid any critical shortages in any one yard to occur.

CONSERVATION OF CRITICAL MATERIALS

In the early days of the programs, shortages of certain items did arise which resulted in delay in delivery of a number of ships. Some delays were due to lack of sufficient manufacturing facilities, others to lack of basic materials such as copper, tin, rubber, etc. As time went by an increase in facilities and production rate have been experienced, but the shortage in certain critical materials has increased due to war needs.

Properly to meet this problem a Materials Conservation Committee was formed whose duty it is to reduce the use of critical materials by finding substitute materials in whole or in part for various items. Much has been accomplished by the Committee which works in conjunction with the Materials Conservation Group in the War Production Board and Navy Department.

PROPELLING MACHINERY

As the need for fast ships increased, the search for propelling machinery manufacturing facilities was intensified. Certain facilities have been enlarged in the turbine and gear cutting fields which have made available additional turbines for cargo ships. Also, in some cases, the designed propeller revolutions were increased to permit the use of smaller bull gears. This considerably increased the production rate of the gear cutting industry. Certain changes have likewise been made in the turbine casing design which have further augmented the available number of higher powered installations in merchant ships possible in the near future.

These additional turbines will be used principally in some of the newly designed Victory ships, giving such vessels the benefit of the economy and reliability inherent in that type of machinery. It has been found possible to install a new nozzle ring on the turbines used in the construction of the T2 tankers, thereby obtaining additional power and consequent increased speed for those vessels. A few minor changes were necessitated in the boilers in order to utilize this gain. A Diesel main propulsion engine is under construction for an experimental installation in one of the new Victory ships.

The Skinner Uniflow engines are being used as prime movers for the aircraft carriers being constructed by the Commission for the Navy. It is expected from the very favorable reports received so far that these installations will prove to be reliable and reasonably economical in service.

The reciprocating machinery with which all the Liberty ships are powered is giving remarkable service, as evidenced by the reports received and the lack of any extensive machinery repairs. As stated in these discussions of past years, the choice of the reciprocating engine for the emergency construction program has proved to be wise and assisted in making the ship construction records of the past two years.

The Lentz type engine has been installed in some of the new ore carriers on the Great Lakes. An engine of this type to develop between 5000 and 6000 H.P. has been constructed and will be shop-tested in the near future. It is expected that this engine will be installed in one of the Victory type vessels as an experimental installation.

FEED WATER FILTRATION SYSTEM

The filtration system for handling condensate for re-use in the boilers of the ships using the Uniflow type of reciprocating engines has been developed to a high stage of efficiency. The presence of oil in boiler feed water in such power plants has always been a serious problem from the standpoint of boiler operating efficiency and maintenance. A full description of the subject development may be found in the 1943 volume of the *Transactions* of the Society of Naval Architects and Marine Engineers which will be issued in the first part of 1944.

PRODUCTION

The second anniversary of the launching of the *Patrick Henry,* the first of the Liberty Ships, was celebrated on Sept. 27, 1943. The achievements of the shipyards during these two years have truly been magnificent, and every known shipbuilding record has been smashed. There have been delivered more than 2,100 ocean-going merchant vessels which total more than 21,000,000 deadweight tons. Of the above totals 1,530 were of the Liberty type, about 195 of the C types, about 195 were tankers; 90 were for military use, and some 170 miscellaneous smaller ocean-going vessels were included. The construction completed in 1943, of course, comprises the bulk of the tonnage delivered since Sept. 27, 1941, in as much as there were more ways devoted to merchant shipbuilding, and practically all the yards reached peak production.

The first Liberty ship took 245 days from keel-laying to delivery. In September of 1943, 106 Liberty ships were delivered into service on an average of less than 45 days from the time the keels were laid. One West Coast yard is delivering Liberty ships from all its ways at an average time of less than 30 days. The same yard delivered 2.18 ships per month per way during the month of September, 1943.

STEEL VESSELS UNDER CONSTRUCTION

The main construction in terms of number of ships and tonnage has been of the Liberty ships, which type is familiar to all. The C type cargo ships are also well known so that no further comment will be made in respect to these vessels as constructed for merchant service.

As naval auxiliary vessels, the Navy has utilized vessels of all of the C type design. In many instances the conversions have been made from plans developed by the Maritime Commission and carried out in the building yard. Notable conversions have been to transports, escort carriers, hospital ships, combat transports, combat cargo ships, tenders, supply ships, etc.

The Victory ship has passed through the design stage, and contracts for some 319 have been awarded. Deliveries were scheduled to start early in 1944 and be completed by the end of December next. These vessels have the same carrying capacity as the Liberty ships, slightly more length and beam, and are powered to give from 15 to 17 knots speed. They will be of all welded construction except for a riveted gunwale connection weather deck to shell.

The first group of V4 ocean-going Diesel propelled tugs are all in service and are doing yeoman work. A considerable number of successful tows have been made, covering exceptionally long distances. The speed attained has been very satisfactory; the tugs handle well and are proving to be sturdy and dependable.

A number of the standard Maritime Commission designs have been adapted to specialized uses to suit the varying military needs arising from time to time. The C4 type has been rearranged to meet the requirements of several different services. Some of the Liberty ships are being altered to serve as tankers, and some are being redesigned to serve as colliers.

MILITARY TYPES

There have been a number of types of vessels constructed which have been designed primarily for military use. The most prominent are the aircraft carriers building on the West Coast. These vessels are being built to commercial standards except in regard to those items which are military in nature. The characteristics of the vessels have been determined to suit their use as carriers, and they are powered by Skinner Uniflow engines.

The frigate type is also being constructed for exclusive military use, and they are designed to serve as escort vessels. Some 102 are scheduled to be built for the United States and British navies in yards situated on the East and West Coasts and on the Great Lakes. Those building on the Great Lakes will have to be towed to the Gulf by the aid of pontoons. These vessels are some 306 feet in length and are an adaptation of the Corvette type.

Two groups of troop transports are being constructed, a number of which have already been delivered. These vessels are designed and constructed as far as possible to conform to existing rules and regulations applicable to passenger ships, so that after the war they can be converted to merchant use with the minimum of changes.

Many of the tank landing craft which have been so effective in the amphibious landings by the armed forces as noted by the public press were built in Maritime Commission shipyards and under its inspection. The design was started by the Commission on request by the Navy Department, but was completed by the latter agency.

RELATED MEASUREMENTS

A number of small cargo vessels of about 4,000 tons deadweight are under construction for combined use by the Army and Navy. These vessels, it is felt, may be suitable for use in the coastwise trades or elsewhere after the war.

A group of twin screw refrigerated cargo vessels are under construction for use by a subsidiary of the United Fruit Company.

The small coastal tankers and freighters, which were originally designed and built for use of the British, have been redesigned and are under construction for Naval and commercial use in the United States.

The tug building program has been on the whole very satisfactory, and many units have been put into service. There were included in this program the large ocean-going steel tugs, the smaller wooden ocean and coastwise design, the large and small types of harbor tugs.

REINFORCED CONCRETE CONSTRUCTION

The concrete construction program has not come up to expectations in respect to speed of production and cost. For this reason, and because the urgent need for tanker tonnage is being met by the expanded tanker construction and conversions of Liberty ships to tankers, there has been a curtailment of the program by cancellation of some 31 barges. Those completed and in service have been reported as very satisfactory. It is too early, however, fully to evaluate the merits and demerits of these vessels. There has been no curtailment in the number of self-propelled concrete vessels to be built. It is expected that about five of these vessels will be in service by the end of 1943.

The delays referred to have resulted from various causes, among which may be included failure of the builders to realize the great detail required to establish rigid control in placing the reinforcement steel, and in obtaining the proper concrete mix, pouring and tamping the same to get the required density and strength. Also, difficulties have been encountered in obtaining the proper materials necessary to complete the vessels. On the request of the Army, some 25 reinforced concrete lighters of about 2,000 tons carrying capacity will be built for delivery in 1944.

WOOD CONSTRUCTION

The wooden barge construction program has also been somewhat behind schedules. The main difficulties encountered have been the scarcity of structural timbers necessary for ship construction, shortage of skilled workers, and in some instances lack of efficient management. As a result of this and changing conditions, the number of barges contemplated to be built has been reduced by some 10 units. It is too early to determine the excellence of performance of these barges as only some 20 have been delivered, and all of those but one in the last half of the year. There has also been a reduction in the number of wooden sea-going tugs to be built, because of the reduced barge building program and other factors.

TRENDS

The future needs in terms of ship type, size, and speed will influence trends more and more as the war draws to a close. Of the above three considerations, the need for speed in competitive trade is generally agreed upon. This view is reflected in the initiating of the Victory Ship construction program, and the stepping up of the construction of the C type vessels.

The size of the individual vessels of the present and near future merchant fleet averages much higher than before the war. This has been caused by the great number of Liberty ships which have been built. The Victory ship is of the same capacity, so that at present the trend generally is in the direction of comparatively large cargo vessels. This also holds true in the tanker group, as the construction program is dominated by the 16,600 ton deadweight size vessels.

As regards type of vessels, there is considerable divergence of opinion in respect to the needs of the passenger-carrying trade when peacetime service is resumed. The rapid development of the airplane in transoceanic travel will undoubtedly have a real effect on ship travel in terms of volume and class of accommodations.

Emphasis is still being placed on improving the speed of cargo handling. Studies are being carried out in connection with new methods and with improvements in the present practices.

PERIODICAL PUBLICATIONS

Civil Engineering
29 West 39th Street, New York City.
Construction Digest
215 East New York Street, Indianapolis, Ind.
Construction Methods and Equipment
330 West 42nd Street, New York City.
Contractors and Engineers Monthly
470 Fourth Ave., New York City.
Diesel Power
192 Lexington Ave., New York City.
Electrical Communication
67 Broad Street, New York City.
Electrical Engineering
29 West 39th Street, New York City.
Electrical World
330 West 42nd Street, New York City
Electronics
330 West 42nd Street, New York City.
Engineering and Mining Journal
330 West 42nd Street, New York City.
Engineering News-Record
330 West 42nd Street, New York City.
General Electric Review
General Electric Company, Schenectady, N. Y.
Journal of Engineering Education
University of Pittsburgh, Pittsburgh, Pa.
Mechanical Engineering
29 West 39th Street, New York City.
Mining and Metallurgy
29 W. 39th Street, New York City.
Motor
572 Madison Ave., New York City.
National Engineer
176 West Adams Street, Chicago.
Popular Mechanics Magazine
200 East Ontario Street, Chicago.
Popular Science Monthly
353 Fourth Ave., New York City.
Power Plant Engineering
53 West Jackson Boulevard, Chicago.
Professional Engineer
8 South Michigan Ave., Chicago.
Radio Communications
19 East 47th Street, New York City.
Radio Guide
551 Fifth Ave., New York City.
Radio-Television Journal and Talking Machine World
1270 Sixth Ave., New York City.
Radio World
145 West 45th Street, New York City.
Railway Mechanical Engineer
30 Church Street, New York City.
S.A.E. (Journal of the Society of Automotive Engineers)
29 West 39th Street, New York City.
Sibley Journal of Engineering
Cornell University, Ithaca, N. Y.
Tech Engineering News
Massachusetts Institute of Technology, Cambridge, Mass.
Technology Review
Massachusetts Institute of Technology, Cambridge, Mass.
Universal Engineer
150 Nassau Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Allied Building Metal Industries, 101 Park Ave., New York City.
American Association of Engineers, 8 S. Michigan Ave., Chicago, Ill.
American Ceramic Society, 2525 N. High St., Columbus, Ohio.
American Concrete Institute, 408 New Center Bldg., Detroit, Mich.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

American Construction Council, 154 Nassau St., New York City.

American Foundrymen's Assn., 222 W. Adams St., Chicago, Ill.

American Institute of Chemical Engineers, 50 E. 41st St., New York City.

American Institute of Consulting Engineers, 75 West St., New York City.

American Institute of Electrical Engineers, 29 West 39th Street, New York City.

American Institute of Mining and Metallurgical Engineers, 29 W. 39th St., New York City.

American Iron and Steel Institute, 350 Fifth Ave., New York City.

American Petroleum Institute, 50 W. 50th St., New York City.

American Public Works, Assn., 1313 East 60th St., Chicago.

American Radio Relay League, 38 La Salle Road, West Hartford, Conn.

American Railway Engineering Assn., 59 E. Van Buren St., Chicago, Ill.

American Road Builders Assn., 1319 F St., N.W., Washington, D. C.

American Society of Civil Engineers, 29 W. 39th St., New York City.

American Society of Heating and Ventilating Engineers, 51 Madison Ave., New York City.

American Society of Mechanical Engineers, 29 W. 39th St., New York City.

American Society for Metals, 7301 Euclid Ave., Cleveland, Ohio.

American Society of Naval Engineers, Navy Bldg., Constitution Ave., N.W., Washington, D. C.

American Society of Refrigerating Engineers, 50 W. 40th St., New York City.

American Society of Safety Engineers, 60 E. 42nd St., New York City.

American Society for Testing Materials, 260 S. Broad St., Philadelphia, Pa.

American Standards Assn., 29 W. 39th St., New York City.

American Statistical Assn., American University, Massachusetts & Nebraska Aves., N.W., Washington, D. C.

American Water Works Assn., 500 Fifth Ave., New York City.

American Welding Society, 29 West 39th Street, New York City.

Engineering Foundation, The, 29 W. 39th St., New York City.

Highway Research Board of the National Research Council, 2101 Constitution Ave., N.W., Washington, D. C.

Illuminating Engineering Society, 51 Madison Ave., New York City.

Institute of the Aeronautical Sciences, Inc., 30 Rockefeller Plaza, New York City.

Institute of Radio Engineers, Inc., 330 W. 42nd St., New York City.

National Aeronautic Assn., 1025 Connecticut Ave., Washington, D. C.

National Board of Fire Underwriters, 85 John St., New York City.

National Fire Protection Assn., 60 Batterymarch St., Boston, Mass.

National Research Council, 2101 Constitution Ave., Washington, D. C.

National Slate Assn., 644 Drexel Bldg., Philadelphia, Pa.

New York Electrical Society, 29 W. 39th St., New York City.

Radio Club of America, 11 W. 42nd St., New York City.

Radio Manufacturers Association, 1317 F St., N.W., Washington, D. C.

Society of Automotive Engineers, Inc., 29 W. 39th St., New York City.

Society of Naval Architects and Marine Engineers, 29 W. 39th St., New York City.

Society for Promotion of Engineering Education, Univ. of Pittsburgh, Pittsburgh, Pa.

Society of Motion Picture Engineers Inc., The, Hotel Pennsylvania, New York City.

Western Society of Engineers, 231 S. La Salle St., Chicago, Ill.

DIVISION XX

GEOPHYSICAL SCIENCES

EARTHQUAKES AND VOLCANOES

By N. H. Heck
United States Coast and Geodetic Survey

GENERAL

Throughout 1943 seismologists continued to contribute to the war effort by furnishing information and advice, especially in the field of vibration research, and some have transferred to the armed services. Accomplishment must be appraised from this viewpoint.

EARTHQUAKES IN FOREIGN AREAS

Some strong earthquakes occurred in active war zones, but the number of reports has decreased; however, by coordinating radio broadcasts with the intensity indicated by distant instrumental records, the truth has been approximated. There was no major earthquake during the year, but the aggregate effect of the three listed for Turkey was great. In all, 10 deserve mention for the year Dec. 1, 1942 to Nov. 30, 1943: Dec. 20, Turkey, Erba, southeast of Samsun, several thousand buildings damaged, 500 deaths; Dec. 26, northern Colombia; Jan. 29, Peru, Cuzco Province, 200 dead; Jan. 29, Ecuador, Guayaquil; Jan. 29, Yugoslavia, Bosnia, 12 villages damaged; April 6, Chile, Salamanca and Illapel; May 28, Germany, vicinity of Stuttgart, buildings damaged; June 20, Turkey, Adapazari, west of Ankara, 1,000 killed; Sept. 11, Japan, Totori, many deaths; Nov. 27, Turkey, southwest of Samsun, 2,700 dead, 29 villages destroyed.

UNITED STATES, ALASKA, HAWAII, AND PUERTO RICO

There were no important earthquakes in these areas. Lesser ones included: Dec. 3, western Nevada; Jan. 14, Portland, Me.; March 8, near Cleveland, O.; April 15, Livermore, Calif., hospital damaged; July 28, submarine shock widely felt in Puerto Rico; Oct. 25, San Jose, Calif., some damage.

SEISMOLOGICAL STATIONS

According to the best available information there are 56 active seismograph stations in the United States including a new one at Rapid City, S. D. Suspended stations include one at East Machias, Me., and one at Butte, Mont., and there may have been others. The stations have been operated by: the Coast and Geodetic Survey either directly or in cooperation with other government bureaus and various institutions; independent educational and scientific institutions; and individuals. Four organizations coordinate the work of several groups of stations with central offices as follows: Northeastern Seismological Association, Weston, Mass.; Jesuit Seismological Association, St. Louis, Mo.; southern California, Pasadena; central California, Berkeley. Alaska has two stations; Hawaii one (in addition to a number for recording volcanic earthquakes); Puerto Rico and Panama, one each. In South America, the

Carnegie Institution operates a seismograph at Huancayo, Peru, and the Smithsonian Institution operates one in Chile. Two stations have continued operation in Greenland, but the Bermuda station has probably been suspended.

EARTHQUAKE LOCATION

Through the added cooperation of stations outside of the United States fairly good immediate locations of earthquakes have been made, in some cases of military importance. Cooperation of the Coast and Geodetic Survey, Jesuit Seismological Association, and Science Service has resulted in locating nearly four earthquakes per month. There has been assistance from Greenland, Canada, Mexico, Colombia, Peru, Samoa, New Zealand, and Australia.

OBSERVATIONS OF DESTRUCTIVE EARTHQUAKES IN CENTRAL REGIONS

During the year, 46 records were obtained by the Coast and Geodetic Survey from seven strong earthquakes, the most important being that near San Jose, Calif., on Oct. 25. The instruments were ready to record much stronger shocks. There were 51 strong motion instruments in California, four each in Nevada and Montana, and one each in Utah and the Panama Canal Zone.

For several years investigations were being made of the accuracy of the reproduction of the earth motions. Results have now been published, indicating that the accelerations and the displacements mathematically derived from them have all needed accuracy. Methods of direct application of the accelerations to the design of structures have also been published. These are important steps in the substitution of rational for empirical methods of design.

Some vibration observations were made of buildings under construction. The instruments developed for this purpose have proved useful for special investigations as they cover a range of periods of vibration not otherwise provided for.

The location of an earthquake by instrumental means provides only one point on an earthquake map. Further information must be obtained from those who observed the earthquake so that effects on the surface of the ground, on water supplies, and on buildings and other structures may be known. Through cooperative arrangements the agencies that have been mentioned and many others arrange for securing the information on printed forms which aid the informant in furnishing the desired details. In regions of frequent earthquakes, the forms are provided in advance. In many of the western states a collaborater attends to the collection. There has been some loss of effectiveness but, fortunately, the seismic activity has been below normal. The essential thing is that the machinery exists so that the information can be assembled and analyzed, if an important earthquake occurs, as the information is sure to be needed by military and other users.

NEW DEVELOPMENTS

These have been practically at a standstill, and will probably remain so during the war, except that new developments for military purposes may apply to seismological problems later.

RELATED MEASUREMENTS

Earthquakes are related to crustal movements, and a possible though still remote method of determining the imminence of an earthquake may lie in precise geodetic measurement of such changes. These measurements are made in regions subject to earthquake and repeated after a period of years to detect changes in the horizontal and vertical position of geodetic monuments. No repeat observations were made during the year but many new monuments were established which may be used later for this purpose.

Tilt measurements for a similar purpose were continued at Berkeley and at Long Beach, Calif. The tilt is measured continuously but it relates only to the place of observation, and nonseismic tilt due to weather and change of groundwater conditions must be eliminated. It is not yet known whether tilt is an important factor in earthquake occurrence as it appears to be in some parts of Japan.

No gravity determination which might have significance with regard to earthquake occurrence are known to have been made during the year.

Observations have continued in several localities to determine whether there is any relation between the loading of the earth's crust by the forming of a large artificial lake and earthquake occurrence.

Automatic tide gages installed recently in Central and South America through cooperation with the governments concerned by the Coast and Geodetic Survey have made it possible to detect vertical crustal movement along the coast and also to record seismic seawaves. There were neither type of occurrence during the year.

At a number of places changes in the water level of deep wells, owing to near-by and distant earthquakes, are being systematically reported.

SEISMOLOGICAL ORGANIZATIONS AND PUBLICATIONS

In addition to the organizations that have been mentioned, the Seismological Society of America and its Eastern Section have continued publication though meetings have been postponed. The section of Seismology of the American Geophysical Union held a meeting. All are prepared to function to meet military needs. The section is a branch of the Seismological Association of the International Union of Geodesy and Geophysics, which, in spite of war conditions, has continued to function partially. Publication by the various organizations have included annual lists of earthquakes, bulletins of instrumental results, and the results of special studies. There is considerable demand for information regarding regions where special precautions must be taken, and also for appraisal of earthquake effects in inaccessible regions.

VOLCANOES

With one exception there was little unusual volcanic activity during the year. Actual fighting occurred in the vicinity of well known volcanoes but there has been no activity to affect operations. A seismograph was installed in Puebla, Mexico, primarily to study earthquakes associated with volcanoes.

During November there was an eruption of the volcano on Niua Fu Island of the Fiji group, with lava flowing into the sea and a village abandoned.

NEW VOLCANO IN MEXICO

The exception is the formation on Feb. 20 of a new volcano, named Paracutin from a nearby village in the State of Michoacan, Mexico. The village was totally abandoned in June because of heavy fall of dust and approaching lava fields. The volcano is some 330 miles west of Mexico City by road though only about 200 miles geographically. The course of events was closely followed by scientists of Mexico and the United States. Eruption began in a cultivated field within a belt of prehistoric volcanic activity probably dating back about four centuries. The lava and other volcanic debris was chiefly of olivine basalt, the lava being viscous in type. By mid-June the height of the cone was about 1,100 feet, and the two main lava fields were extended approximately a mile, one to the north and the other to the east. Several types of scientific investigations have been made or are in process. Among these was a regional magnetic survey by the Coast and Geodetic Survey in cooperation with the Mexican Government and the Pan American Institute of Geography and History, based on the assumption that the underlying magma was so hot as to lose most of its magnetism. This work will serve as a base so that future surveys may disclose changes in the earth's field with material changes in the volcanic conditions relative to heat effects. In mid-November the activity continued with new vents and increased height.

The lava showed decreased viscosity. A destructive earthquake on Feb. 22 centered near the coast to the west of the volcano. It is still an unsolved question whether the two phenomena are related.

ECONOMIC GEOGRAPHY

By Samuel N. Dicken
Associate Professor, University of Minnesota

GENERAL

In 1943 the general war time trends of economic geography continued with some very significant variations. The scope of the subject broadened and the point of view shifted somewhat. Whereas in 1941 and 1942 the major emphasis was on strategic materials in the Western Hemisphere, more attention was given in 1943 to world-wide production. To be sure, many important studies of a restricted nature continued to appear but many articles and books reflected a broader outlook (*Food Situation in a World at War,* Am. Acad. Pol. and Soc. Sci., 1943, and *Minerals in World Affairs,* Prentice Hall, New York, 1943, for example). In addition to the wider scope of many studies there was a definite increase in interest in the economic geography of the post-war world. A book by C. K. Leith, et al. (*World Minerals and World Peace,* Brookings Inst., Washington, 1943) and a survey by Adolf Sturmthal (*A Survey of Literature on Post-war Reconstruction,* New York Univ. Inst. Post-War Recons. Ser. 1, 1943) are merely samples of many such studies. Interest was shown in the resources available to the various countries after the war (Charles H. Behre, Jr., "Mineral Resources and the Atlantic Charter," *Geog. Rev.,* July, 1943).

NORTH AMERICA

In North America most of the studies in economic geography were concerned with local conditions, often as affected by the war, but many publications, including those of the governments, take a broader view. Hal. B. Lary discusses the *United States in World Economy* (U. S. Bur. For. and Dom. Comm. Econ. Ser. No. 23, 1943). Several papers are concerned with rubber and the various sources of supply, natural and synthetic (H. S. Marshutz, "Rubber from the Desert," *Geog. Mag.,* Sept., 1943 and H. L. Trumbull, "Man-made Rubbers," *Jour. Geog.,* Sept., 1943. Otis W. Freeman and Hallock F. Raup ("Pacific Northwest Minerals in Wartime," *Jour. Geog.,* Apr., 1943) emphasize the importance of water power in the production of aluminum and magnesium, and in addition describe production of other metals. Mr. Freeman contributes also a study of the pea industry of the same area ("The Pacific Northwest Pea Industry," *Econ. Geog.,* Apr., 1943).

There are many indications that production within the United States will be affected permanently by the war. Although Clyde F. Kohn's paper ("Development of Dairy Farming in Mississippi," *Econ. Geog.,* Apr., 1943) is primarily concerned with the local conditions of production, it is evident that the unusual demands of the Army camps may contribute indirectly to the establishment of an important dairy industry in the South. Another agricultural change, temporary perhaps, is the cultivation of hemp in the Corn Belt (J. C. Hackleman, "Hemp, an Illinois War Crop," *Ill. Agric. Ext. Circ.* 547, 1943).

LATIN AMERICA

Students of Latin American production, both native and North American, have been increasingly active. Of the former, H. Gonzalo Gonzalez gives a representative overall view of his country in "Agricultura Mexicana" (*Estadística,* Sept., 1943). A somewhat similar study by Carlos de Lima Cavalcanti ("Past and Present Economy of Brazil," *Com. Pan America,* Jan.-Feb., 1943) gives much historical background. Henry Becker's "Land Utilization in Guanacaste Province, Costa Rica" (*Geog. Rev.,* Jan., 1943), Earl Shaw's "Food Front in the Greater Antilles" (*Econ. Geog.,* Jan., 1943), and Raymond Crist's "Wheat Raising in the Venezuelan Andes" (*Sci. Monthly,* Apr., 1943) are examples of the many studies made by North American workers in Latin America. Agricultural production, by countries, is the subject of a series of studies by Katherine Wylie, in *Foreign Agriculture.* Noteworthy also are the *New Guides to Latin America Republics* (Earl P. Hanson, ed. Office U. S. Coord. Int.-Amer. Aff., N. Y., Duell, Sloan, and Pearce, 1943). The *Bulletin of the Pan American Union* contains much information on current production trends; valuable also is *The Annual Economic Survey of Latin America* (Pan American Union, 1943).

AFRICA

When North Africa was freed from Axis forces early in 1943, the Allies came into possession of a "distressed" area (Jean Gottmann, "Economic Problems of French North Africa," *Geog. Rev.,* Apr., 1943). A rich, productive land was transformed into a liability and a difficult period of agricultural rehabilitation lies ahead before the normal surpluses of cereals, fruits, and vegetables are available. Meanwhile the remainder of Africa continues to produce and develop, although hindered somewhat by the war. The regional distribution of production and the character of the land use is described by H. L. Shantz ("Agricultural Regions of Africa," Part IV, *Econ. Geog.,* Jan., 1943). The equatorial regions of Africa, especially, are destined for a rapid development in the post-war period. The special significance of fats and oils from this region is suggested by Leo Waibel ("The Political Significance of Vegetable Fats and Oils for the Industrial Countries of Europe," *Annal. Assoc. Am. Geog.,* Jun., 1943), but Africa has poor internal transportation, and the Sahara is a great barrier between equatorial Africa and Europe. R. H. Forbes ("The Transsaharan Conquest," *Geog. Rev.,* Apr., 1943) describes the route from Oran to the new irrigated area on the Niger River and discusses the possibility of a railroad along this route. The mineral resources of Africa will also be of increased significance to the European countries after the war ("The Mineral Resources of Africa," Univ. Penn. Museum, *African Handbook No. 2,* 1943).

EUROPE

The interrupted or delayed publication of many European periodicals makes it difficult to evaluate production trends in that continent, but it is obvious from the available material that the various countries of Europe are re-examining their resources in the light of the war's effects. In Britain a series of land use studies ("Land Utilization of Great Britain," *Geog. Publications,* London, 1942-43) of the various regions gives a detailed picture of the transformation of Britain from an essentially pastoral economy to near self-sufficiency in certain foodstuffs. L. D. Stamp, who is connected with the above survey, summarizes some of the results ("Land Use in Great Britain, 1937-1943," *Geog. Rev.,* Oct., 1943).

The primary concern in Europe is food, as indicated by articles published in the United States as well as in Europe. J. H. Gorvin in "Some Aspects of the Post-war Feeding of Europe" (*Proc. Royal Inst.* London, 1942) looks at the broader aspects of the subject, as does also the *Foreign Commerce Weekly* (March 20, 1943) in "Europe's Food Dilemma." Many studies, however, are concerned with very specific problems or regions (Karen Freidmann, "Norway's Post-war Fish Balance," *For. Agric.,* May, 1943, and V. B. Sullam, "The Agriculture of Sicily," *For. Agric.,* Oct. 1943).

Information continues to come out of Russia and eastern Europe although the production picture there is far from clear (Stevens, A., "Russian Climates and Agriculture," *Geog. Rev.,* Mar., 1943, George Goodall, *Soviet Russia in Maps,* Philip and son, London, 1942, and P. N. Rosenstein-Rodan, "Problems of Industrialization of Eastern and Southeastern Europe," *Econ. Jour., Jun.-Sept.,* 1943).

ASIA

In the light of the difficulties imposed by the war, the number and quality of the studies of production in Asia is nothing short of remarkable. Every part of the vast continent receives attention, from Turkey to the East Indies and from Ceylon to northern Siberia. Most of the studies are fairly specific but a few are general overviews like S. Chandrasekhar's "Food and Population in Asia," (*Asia and the Americas,* June, 1943). Particular attention has been focused on China, especially on her agriculture (Guenther Stein, "Free China's Agricultural Progress," *Pac. Aff.,* Sept., 1943; J. L. Buck, "Agricultural Survey of Szchewan," *Inst. Pac. Rel.,* 1943; Rockwood Chin, "China's Cotton Industry under Wartime Inflation," *Pac. Aff.,* Mar., 1943; Mildred Cable, *The Gobi Desert,* Stoughton, London, 1943) and on her mineral production (Thomas T. Read, "Economic-Geographic Aspects of China's Iron Industry," *Geog. Rev.,* Jan., 1943).

Japan comes in for much attention although little new material has come out of that country since 1937. *Japan, a Geographical View* (Guy-Harold Smith *et al*) is a useful compilation of available materials, including maps of relief, population, and mineral resources (Am. Geog. Soc. Spec. pub. No. 28, 1943). A very important resource of Japan is discussed under the title *"Japanese Fisheries and Fish Supplies"* (Far East. Surv., May 17, 1943). The importance of Japan's route to Manchuria is indicated in Shanno McCune's "Recent Development of P'yongyang, Korea," (*Econ. Geog.,* Apr., 1943), a study of an important industrial city in northwestern Chosen.

Southeastern Asia receives attention, Bruno Lasker's "Mineral Resources of Southeastern Asia," (*Jour. Geog.,* Oct.-Nov., 1943). A very interesting first hand study, made before the war, is Robert L. Pendleton's "Land Use in Northern Thailand" (*Geog. Rev.,* Jan., 1943). Much new information about India is given in the *Indian Yearbook* (Bombay and Calcutta, 1942-43) and in Charles Behre's "India's Mineral Wealth and Political Future," (*For. Aff.,* Oct., 1943). One of the least studied large parts of the world is treated in Emil Lengyel's *Siberia* (Random House, N. Y., 1943). A very important resource for the war effort of the Allies in southeastern Europe is L. C. Uren's *Struggle for Oil in the Near East* (Univ. Calif. Press Comm. on Int. Rel., 1943).

OCEANIA

Many of the studies in Australia and the South Pacific are concerned with more or less normal peacetime production. Anne Goebel ("Adelaide and South Australia," *Jour. Geog.,* Nov., 1943) gives a brief picture of the third city of Australia and its production background. A. V. Lyon describes the irrigated region of South Australia ("Production of Dried Grapes in the Murray Valley," *Bull. Council Sci. and Ind.,* Melbourne, 1942). Interest in the South Sea Islands has been greatly stimulated by the war. W. Ladejinsky's "Island Agriculture of the South Pacific" (*For. Agric.,* Aug., 1943) describes the crop system in general. The *Pacific Island Yearbook* (Sydney, 1942) is an old standby of useful information. Most timely are *War Background Studies* of the Smithsonian Institution and Harry Luke's "The Gilbert and Ellice Island Colony" (*Geog. Mag.,* Sept., 1943).

MINERALOGY AND PETROGRAPHY

By Clifford Frondel
Research Associate in Mineralogy, Harvard University

QUARTZ RADIO OSCILLATOR PLATES

The phenomenal growth of the quartz oscillator plate industry has continued (The American Year Book, 1942). There are signs that production may soon level off, and the probability of an excess productive capacity in the industry may soon come into consideration. The question of the supply and quality of raw material is somewhat less critical than before, due to improvement in marine transport with Brazil. Efforts to develop large scale domestic sources of raw quartz have not yet met with success. Increasing emphasis is now being placed on improvements in manufacturing processes and on the quality of the finished product. Work on the improvement of the quality of the crystals has centered largely on extension of the range of temperatures over which the crystals must operate within stated tolerances, on ways and means of eliminating aging phenomena, and on holder design and mounting techniques. Plated crystals, in which the electrodes are deposited directly on the quartz as thin films of silver or other metal, probably will come into increased use.

At the present time it is proving difficult to obtain sufficient quantities of the fine abrasive needed to do the final lapping of the plates. Considerable experimentation has been done with possible substitute abrasives. Among these, garnet powder or mixtures of garnet with emery or other abrasives offer promise. Most manufacturers feel that the industry, as at present constituted, will last only for the duration of the war, and that, although the post-war market will be large, it will not be able to maintain the industry anywhere near its present level.

Considerable thought is being given to possible new applications of quartz. One of these fields is in the development of supersonic devices activated by oscillating quartz plates. These may find wide application both industrially and in the home for homogenizing or mixing liquids, in the removal of dust and smoke particles from air, and as bactericides. Supersonic devices of various types are now in military use.

ARTIFICIAL DIAMONDS

Opinion in recent years has held that none of the very numerous attempts to make diamonds artificially has been successful. The work of Moissan in 1893 on the crystallization of carbon from rapidly cooled cast iron is a possible exception. Most claimants failed to identify their supposed diamonds by X-ray or other rigorous tests. The claim that the product is diamond has usually been formed on the basis of an observed extreme hardness together with a high lustre and high refractive index. These properties are not diagnostic and are possessed by many metallic carbides or nitrides and by spinels with which the supposed diamonds are usually found to be identical.

It has now been found that a synthesis of diamonds reported by J. B. Hannay in 1880 is entirely valid. Hannay's supposed diamonds have been preserved in the British Museum and recently were examined by X-ray methods, and their identity as such was verified. The diamonds were made by mixing light paraffine oils and rectified bone oil with metallic lithium, the mixture being placed in a sealed iron tube and heating to redness. In most instances the tubes exploded violently or the gases leaked out, but occasionally diamond crystals were obtained. More recent experiments to verify this synthesis have been unsuccessful, but there is no question but that Hannay actually did obtain diamonds.

It appears in view of the low percentage of success in Hannay's experiments and the minute amount of diamond which is obtained that any hope of making artificial diamonds on an industrial scale is not likely to be realized. At the present time, however, efforts are being made in this direction, but with what success it is not yet known. Diamond dust would come into very wide application as an abrasive if the present cost could be reduced slightly. The diamonds obtained by Hannay, while well suited to some industrial purposes, could not be used as gem stones.

MINERALOGY OF THE MANGANESE OXIDES

The work being done in this complex and important field has progressed rapidly. A summarizing description of the mineralogy of the manganese oxides has been published by the U. S. Geological Survey, and additional data has come from other sources. The Survey publication lists the physical and chemical properties together with X-ray spacing data for the species now recognized. Most of the secondary manganese oxides can be identified with certainty only by X-ray tests. Cryptomelane, recently shown to be the principal natural oxide of manganese, has now been found to form isomorphous mixtures with hollandite and coronadite. A chemical and mineralogical study has been made of the artificial system FeO-Fe_2O_3-MnO-Mn_2O_3 for the purpose of determining the phase relations. This work has shown that the miscibility of Mn_2O_3 and Fe_2O_3 is about 10-15 per cent at ordinary temperatures and increases but little with increasing temperature. About 20 per cent Fe_2O_3 dissolves in Mn_2O_3 at ordinary temperatures, and the amount increases rapidly over 500°C.

Many supposed natural species in this system have now been discredited. Fe_3O_4 and Mn_3O_4 are completely miscible at high temperatures in spite of the difference in symmetry between them. The miscibility of Fe_3O_4 in alpha-Fe_2O_3 is extremely small at ordinary temperatures. There is a continuous transition from Fe_3O_4 to gamma-Fe_2O_3. The problem of the chemical composition of braunite has been solved by an X-ray analysis of the crystal structure. The silica contained in this mineral, thought by some to be present as an impurity, is an essential constituent. Quite recently several new occurrences of Mn_2O_3, containing ferric iron in solid solution, have been found. Some controversy has resulted from efforts to introduce new species' names into this solid solution series (sitaparite, partridgeite), but it appears that only the name bixbyite will be retained.

MINERALOGY OF BISMUTH

The mineralogy of natural oxygenated compounds of bismuth, especially the oxides and the carbonates, has been a standing problem. An extended X-ray study of these materials made at Harvard University has shown that bismutite (Bi_2CO_5) is the only important carbonate of bismuth. A number of ill-defined, supposedly distinct, bismuth carbonates have been found to be identical with this material. The confusion surrounding the natural oxides of bismuth has been resolved by restricting the name bismite to alpha-Bi_2O_3. Most supposed occurrences of this material lack foundation. Three other polymorphs of Bi_2O_3 are known in artificial material, and one of these, isometric in crystallization, has been recognized in nature and described as a new species, sillenite. The occurrence in nature of a hydrated bismuth oxide can not be verified. An X-ray survey of the natural arsenates of bismuth has shown that a number of supposed species are in fact invalid. The oxychloride bismoclite has been found to be widespread in small amounts. Most occurrences had earlier been confused with bismutite and bismite. New localities also have been found for the rare molybdate koechlinite. The power and utility of X-ray methods in determinative mineralogy is well illustrated by this work on bismuth minerals. Many of the erroneous descriptions have been carried in reference books for a century and more.

AUTORADIOGRAPHY OF MINERALS

A novel technique to determine the distribution of a particular element in ores has come from investigations made in the Physics Department at the Massachusetts Institute of Technology. Polished sections of ores are bombarded by slow neutrons from a cyclotron. This excites artificial radioactivity in certain of the elements composing the ore, and is accompanied by the emission of beta and gamma radiation. The position and relative concentration of the activated elements in the minerals composing the ore can then be determined by placing polished sections in direct contact with photographic film. This information is of value in ore treating and beneficiation techniques. A reconnaissance study already has been made of minerals containing gold, manganese, tungsten, and copper.

DESCRIPTIVE MINERALOGY

Parkerite, a rare sulfide of nickel and bismuth, has been found in the great nickel ore deposit at Sudbury, Ontario. The crystallographic and chemical composition of the material has been re-defined. The mineralogy and genesis of hydroxylapatite has been investigated by workers of the U. S. Bureau of Plant Industries. The mineral occurs only in highly magnesium talc and chlorite schists, and apparently is formed by metamorphism in the presence of much water with a simultaneous formation of other minerals rich in hydroxyl. Increasing amounts of hydroxyl in an apatite is reflected by an increase in the refractive indices and birefringence.

A new vanadium mineral from the manganese deposits at Postmasburg, South Africa, has been named gamagarite. The mineral occurs associated with manganese oxides and manganese-containing silicates. The crystal structure of the barium iron silicate gillespite has been worked out. The structure is rather similar to that of apophyllite. The name hanusite has been given to a fibrous magnesium silicate related to pectolite. Silver sulfide (Ag_2S) is dimorphous, occurring in a high temperature isometric form known as argentite and in a low temperature form, acanthite. The crystallography of acanthite has been problematical. X-ray study has shown that the supposed orthorhombic or isometric symmetry is in error and that the mineral actually is monoclinic. Twinning is common and gives rise to pseudosymmetry which explains the earlier views. Minyulite has been found abundantly in a new locality in South Australia. Brammallite is a new sodium rich mineral allied to mica.

CLASSIFICATION OF MINERAL SULFOSALTS

Minerals formerly were systematically arranged on the basis of their crystal form and chemical composition, but the acquisition in recent years of X-ray structural data is modifying these classifications. A formal classification of the sulfosalts of the metallic elements based primarily on crystal structure data has been repeatedly attempted in recent years, first in connection with the forthcoming new edition of Dana's *System of Mineralogy* and very recently by workers at the University of Toronto. The principal criteria used are cell dimensions, symmetry, and the nature of the cationic bonding. Interestingly, the older classifications based on crystal form are those found to be in general accordance with the structural schemes, as would be expected since the outward form is related to the inner structure. The old chemical classifications on the other hand often prove to be without real foundation. The sulfosalts present a great variety of crystal structures in which the only common factors are certain frequently recurring cell dimensions. These persistent lattice periods are no doubt associated with certain recurring styles of atomic arrangement, but in most instances the details of the crystal structure remain to be worked out. A relationship also is found between the crystal habit of the various sulfosalts and their cell dimensions.

GEOCHEMICAL INVESTIGATIONS

The mineralogical problems in the system Fe-Ni-S have been investigated experimentally by workers at Queen's University. Particular attention is given to the formation of pyrrhotite-pentlandite ores, and the solid solution relations obtaining between Fe and Ni are described in detail. The phase equilibria in the system Li_2O-Al_2O_3-SiO_2 have been investigated at the University of Michigan. This system is of interest because of its bearing on the origin of lithium pegmatites.

TERRESTRIAL MAGNETISM AND ELECTRICITY

By John A. Fleming
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U. S. OBSERVATORIES

The war has continued to hinder the progress of geophysical research, particularly in its international aspects on which theoretical studies of worldwide phenomena largely depend. Despite the continued absorption, however, of individuals and services into research directly connected with the war effort, the regular services at observatories in the Western Hemisphere were maintained, and some field-work was done.

The five magnetic observatories of the United States Coast and Geodetic Survey continued in operation. At Tucson (Ariz.) the old variation-observatory, erected in 1909, had to be replaced by a new building because of attacks of termites. The new structure is partially under ground, as in this desert region no problem is presented by ground-moisture. New magnets were installed in the horizontal-intensity variometers at Tucson and San Juan magnetic observatories. In each case the recording-magnet and temperature-compensating magnet were made from the same piece of Alnico (11) steel, and the performance of the variometers has shown great improvement as a result of this change.

The cooperative program between the Cheltenham Magnetic Observatory and the Department of Terrestrial Magnetism of the Carnegie Institution of Washington was continued, using CIW instruments for absolute standards in horizontal intensity and inclination.

At the Tucson Observatory the program of atmospheric potential-gradient and air-conductivities was continued; earth-current observations were carried on during the early part of the year, then discontinued. At the Cheltenham Observatory cosmic-ray intensities were measured as heretofore. The above projects were in cooperation with the Department of Terrestrial Magnetism of the Carnegie Institution of Washington.

CANADA, GREENLAND, ALASKA

The two Canadian observatories at Meanook and Agincourt, under the Dominion Observatory, were operated as usual as was also the Teoloyucan Observatory of the National Astronomical Observatory of Mexico.

In Greenland, the Godhavn Magnetic Observatory was continued through the cooperation of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington in providing supplies and instrumental replacements for the magnetic program. *K*-indices were communicated weekly from February, 1943, through the United States Department of State.

Arrangements were made by the Department of Terrestrial Magnetism early in May, 1943, with S. O. Corp, manager of the Ivigtut Cryolite Mines, who generously undertook the continuous operation of the observatory established there. At the direction of Governor E. Brun of Greenland, and with authorization of the Danish Minister at Washington, D. C., Dr. K. Thiesen, Director of the Godhavn Observatory, spent a short time at Ivigtut to initiate continuous recording. He installed the CIW specially designed elements in the la Cour variometers of the second magnetograph, and *K*-indices were reported weekly from May 29, 1943.

The temporary magnetic observatory established at College (Alaska) in collaboration with the University of Alaska by the Department of Terrestrial Magnetism of the Carnegie Institution of Washington was maintained throughout 1943. A disturbance daily variation with well-defined peak at about $11^h\,30^m$ GMT (shortly before local midnight) is indicated by the monthly mean ratings of the hourly disturbance, or, more roughly, by the three-hour-range indices, *K*. As a measure of the "unstability" of the ionosphere, the daily sums of the *K*-indices provided figures which may be in better accord with observed conditions of radio communication than are indices based on the ionospheric records. Association of magnetic and ionospheric disturbances gives added utility to current magnetic records in regions, such as College, near the auroral zone of maximum frequency. Observations of the past two seasons have established the close connection between high sporadic *E*-region ionization and auroral activity, particularly in the zenith. This high correlation, coupled with the knowledge that the virtual heights of the sporadic *E*-region correspond to the lower auroral heights determined by parallactic methods, indicates that one phenomenon may be visible evidence of the other.

SURVEYS IN SOUTH AMERICA

The geophysical programs were continued throughout 1943 at the Pilar, La Quiaca, South Orkneys, and San Miguel observatories in Argentina, the Vassouras Observatory in Brazil, the National Observatory of San Bartolomé in Colombia, and the CIW Huancayo Magnetic Observatory in Peru.

The magnetic survey of South America begun in October, 1942 by two observers of the United States Coast and Geodetic Survey was temporarily discontinued in September, 1943. Stations were occupied in every republic in South America with the cooperation of the governments of the countries concerned. Observations were made at 64 stations, most of which had been established and occupied some ten years previously by observers of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. Thus data for the secular changes on the Continent were obtained for use in preparing new isomagnetic charts. The instruments used by the party were compared with the instruments at the Huancayo (Peru), Pilar (Argentina), and Vassouras (Brazil) observatories. Diurnal-variation observations were made at eight stations in the vicinity of the magnetic equator.

UNITED STATES

The Coast and Geodetic Survey continued its magnetic surveys and occupied 16 stations in Alaska and 175 stations in continental United States. The resulting data will be used in preparing isomagnetic charts for epoch 1945. A local survey of magnetic vertical intensity was made within a 25-km. radius around the base of the newly formed Paricutin Volcano in the state of Michoacan, Mexico. The United States Coast and Geodetic Survey is making surveys of airports throughout the United States including observations of magnetic declination at or near the airports as a regular part of the program.

WORLD SURVEYS

The geomagnetic program at Watheroo Magnetic Observatory in Western Australia, operated by the Carnegie Institution of Washington, was continued, and the geophysical observations, except those in atmospheric electricity, were maintained at the Apia Observatory in western Samoa.

GEOMAGNETIC RESEARCH

Apart from geomagnetic investigations connected with the war, considerable research was accomplished. At the Department of Terrestrial Magnetism tables of changes in annual mean value of the geomagnetic field with sunspot-cycle, the average annual variations, daily post-perturbations, and average solar daily variation for the 38-year period from 1905 to 1942 were completed, and instruments for the measurement of short-period magnetic fluctuations were designed, constructed, and placed in operation.

Data on magnetic anomalies in various parts of the world were compiled for determining their relation to geological formations and an isodynamic world-chart of vertical intensity for epoch 1940 was prepared. Isoporic charts of recent epoch were found regionally to show great changes in form from those prepared by the Department of Terrestrial Magnetism for epoch 1922. A simple method for prediction and extrapolation of certain types of geophysical time-series was evolved.

The reductions and discussions of the magnetic data obtained by the United States Antarctic Expedition, 1939-41, were completed. They are to be published by the United States Department of the Interior.

Magnetic activity and properties of the ionosphere parallel roughly the 11-year cycle of solar activity. The last minimum in the cycle occurred in 1933 and another minimum is due between 1943 and 1945. It is of considerable value to the field of communications to foretell the minimum and hence the time when an increase in solar and geomagnetic activity may be expected. Progress of the activity-cycle was compared with the magnetic index *u*, and with average critical frequency of the F_2-layer at Huancayo. The parallelism of critical frequency with sunspot-number was much closer than that of either factor with the magnetic-index curve, and suggests the preferability of ionospheric measurements as direct indicators of terrestrial effects of sunspot-activity.

Radio "black-outs" in polar regions are found to occur during magnetic bays—typical magnetic disturbances of short duration which are preceded and followed by generally undisturbed magnetic conditions. These bays are pronounced near the auroral zone although their magnetic effects extend to equatorial regions.

MAGNETIC INSTRUMENTS

Progress was made in the development of magnetic instruments. The onset of a magnetic disturbance is usually recognizable from standard magnetic records before the storm has reached its major phase. Magnetic recordings, however, are made on photographic paper, and the daily traces are not available for inspection until the paper has been processed. This is generally too late for certain purposes. A visual recording variometer would overcome this difficulty.

One type of visual recorder incorporating a sparking-device to plot change in the Earth's field was devised. A long platinum-tipped pointer attached to a magnet-system of the variometer moves over a metallic plate as the suspended magnet deflects the Earth's field. At one-minute intervals a spark from the tip of the pointer to the metallic plate makes a record on a sheet continuously moving through the spark-gap, thus making immediately apparent the variation of the Earth's field with time.

In a second method, a photoelectric cell is made to follow the light-beam reflected from a mirror rigidly attached to the suspended magnet of a variometer. A pen attached to, or synchronized with, the photocell gives a record in ink of the deflections of the variometer.

Still another type of visual recorder utilized special paper which shows a trace, immediately visible through a red filter, of deflections of the light-beam from a standard variometer.

Variometers were designed for measuring short-period geomagnetic fluctuations. A new variometer of universal pattern for horizontal intensity, vertical intensity, and declination was designed and constructed; this involves quartz-fiber detecting elements and quartz supports. A visually recording magnetograph incorporating this type of universal variometer for horizontal intensity and the la Cour variometer for declination was developed. This type of magnetograph is much needed for continuous, reliable magnetic records over short periods for control and reductions of field-observations for which records as obtained at widely spaced observatories have proved insufficient.

GEOELECTRIC RESEARCH

At the Department of Terrestrial Magnetism improvements were made in methods and instruments for measuring the rate of ionization. The technique of preparing quartz-systems for sensitive instruments was improved.

Further analyses of data obtained at the observatories, particularly at Watheroo, led to more satisfactory interpretations of several characteristic aspects of atmospheric electricity at specific stations. Study of observed variation with velocity of wind of the atmospheric-electric elements at Watheroo improved understanding of effects of smoke distributed in the atmosphere. Evidence was also obtained from the discussions at Watheroo confirming the hypothesis that radioactive matter accumulates in the lower air during times of calm and is mixed with the higher layers of air during times of higher wind velocity.

It was estimated from experimental investigations that the particles in exhaled breath—presumably the chief factor in reducing the electrical conductivity of the air in occupied rooms—are much larger than the ordinary nuclei of condensation, being 3×10^4 times the size of the large ion of the atmosphere.

Earth-current registration, which was inaugurated at the Tucson Observatory in March, 1931, under a cooperative arrangement between the American Telephone and Telegraph Company, Mountain States Telephone and Telegraph Company, the United States Coast and Geodetic Survey, and the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, was continued without serious interruption until March 1, 1943, when it was found necessary for the Telephone companies to discontinue the arrangements because of commercial requirements. Thus records were obtained over approximately a sunspot-period. The data are adequate for giving a fairly satisfactory description of the diurnal variation and its annual changes but some aspects of the latter require further investigation.

IONOSPHERE

The value of the ionospheric studies was emphasized by the urgent need of particulars regarding relations of ionospheric variations and disturbances. Many confidential studies for operational application were made and the result from the Watheroo, Huancayo, and College observatories were used to advantage in these. The Department of Terrestrial Magnetism was asked to establish additional stations, and arrangements were made accordingly.

COSMIC-RAY RESEARCH

Activities in cosmic-ray research were further reduced because of assignment of interested personnel to problems concerned with the war.

It is essential to maintain, as far as possible, continuity of permanent records with cosmic-ray meters for future theoretical and statistical investigation. Under the general supervision of the Department of Terrestrial Magnetism, the cosmic-ray meters at Cheltenham, Huancayo, Teoloyucan, Christchurch, and Godhavn were kept in operation by the collaborating agencies.

At the University of Chicago, Professor Compton's program included investigations of time- and height-variations of cosmic rays, composition, and intensity of cosmic rays, production of secondary radiation, and properties of the mesotron.

At the Department of Terrestrial Magnetism the necessary controls of data received were maintained. The magnetic-storm effect of March 1, 1942 was confirmed by data received from Godhavn and Christchurch. This was the first definite case of a latitude-effect in cosmic-ray changes occurring during magnetic storms and was the first recorded case of large sudden simultaneous increases in cosmic-ray intensity at widely separated stations.

Prof. Victor F. Hess and associates at Fordham University further confirmed results previously reported on the latitude-effect and found also a longitude-effect. It was concluded that the magnitude of temperature-coefficients of cosmic-ray intensities depends less on geomagnetic latitude than on the distribution of air-masses in the upper atmosphere.

At the Bartol Research Foundation the high-pressure cloud-chamber for use under pressures as great as 200 atmospheres was completed by Dr. Thomas H. Johnson and associates. A statistical study of 500 photographs taken at a pressure of 100 atmospheres is under way.

At New York University, Prof. S. A. Korff constructed a large boron-trifluoride counter with which the neutron-intensity at sea-level was studied. This counter showed an improvement in sensitivity by a factor of seven over previous determinations.

Dr. R. A. Millikan and his associates at the California Institute of Technology continued the study of the origin of cosmic rays on the hypothesis proposed by them in 1942 and confirmatory evidence was found. Improved resolution of the cloud-chamber method of measuring masses of mesotrons and the transformations of energy resulting in their birth and disappearance was obtained.

PUBLICATIONS

Parts I (332 pages) and III (102 pages) of the *Transactions* of 1943 of the American Geophysical Union were published; Part II (about 450 pages) was in press for issue in January, 1944. Part I contains the reports and papers presented before all eight sections but Hydrology and Part II presented before the Section of Hydrology at the twenty-fourth annual meeting in Washington, D. C., on April 24 and 25, 1943; Part III contains those presented at the Regional Meeting of the Section of Hydrology and the Western Snow-Conference at Corvallis, Ore., on June 16, 1943. Part I contains current progress-reports and papers pertaining to geomagnetism in North America.

During the year the United States Coast and Geodetic Survey issued the magnetic results for 1933-34 for each of the observatories at Cheltenham, Sitka, Tucson, and Honolulu, the results for 1926-28 for the San Juan Observatory, and for 1932-34 for the Polar-Year Observatory at Fairbanks, Alaska. Twelve isogonic charts for areas outside the United States were prepared during the year.

The quarterly *Journal of Terrestrial Magnetism and Atmospheric Electricity*, published by the Johns Hopkins Press, completed its 48th annual volume in 1943. Besides original articles, it contains sections on magnetic storms, magnetic character-figures, notes of general interest, reviews, and bibliography. In order to make available some of the early contributions to geomagnetism, a series of translations of the more important ones was begun.

XX. GEOPHYSICAL SCIENCES

METEOROLOGY AND CLIMATOLOGY

By F. W. Reichelderfer
Chief, U. S. Weather Bureau

GENERAL

With some modifications dictated by experience, the applications of organized meteorology to military needs progressed during 1943 on essentially the same basis as in 1942. Within the United States the civilian Weather Bureau continues to operate the basic service for synoptic observations and forecasts, while the military services, with their own personnel and facilities, apply these basic values to such military purposes as aviation training, maneuvers, handling of supplies, the conduct of coastal air and maritime patrol, destruction of enemy submarines, transoceanic air transport, and convoying operations in the Atlantic and Pacific. For the staffing of military meteorological units abroad, the Army and Navy continued intensive training of meteorological cadets and officers; and active meteorological services were put in operation as rapidly as the American military control of foreign areas progressed. The value and importance of these services as guides to tactical operations—aerial, maritime, and land-surface alike—have been abundantly demonstrated in active practice.

SEA-LEVEL WEATHER MAPS

In a joint project of the Army, Navy, and Weather Bureau, work was completed during December, 1942 on a 40-year series of daily sea-level weather maps of the Northern Hemisphere. Bearing representative weather observations from all areas north of the equator, the maps were analyzed by the most modern air-mass and frontal techniques, and show the development and movement of important weather conditions and their interrelations and seasonal variations. Printed in book form for the use of meteorologists in active forecasting assignments with the armed services, this convenient assembly of data should later prove of immense value in meteorological research and practice. Supplementary maps for the 3-, 10-, 13-, and 16-kilometer levels were also prepared for a portion of the 40-year period of the sea-level series. Studies of the two sets in conjunction have disclosed significant and hitherto unknown relationships between upper-level and surface-level weather, suggesting, for example, that the southward movement of stratosphere air from the polar regions and the northward movement of the relatively colder stratosphere air from the tropics are directly associated with the development of severe cold waves.

MODIFICATION OF WEATHER DATA RESTRICTIONS

During November the domestic censorship of weather information was discontinued for all types of current weather data and forecasts except for such elements as might still be useful in hostile submarine or aerial operations affecting United Nations interests. A legitimate safeguard during the uncertain stages of the war immediately following the attack on Pearl Harbor and during the height of German submarine activity off the Atlantic Coast, the censorship caused widespread inconvenience from the domestic standpoint. It likewise brought into sharp relief a large number of specific uses and applications of weather information in the operations of industry, transportation, utilities management, and agriculture. To meet the needs of such activities, the U. S. Weather Bureau instituted a system of operational advices, designed to omit meteorological information and at the same time to guide operations affected by weather. The effects of this development will undoubtedly be visible henceforth in an improved form of forecasting, applying more directly to actual operating procedures such as the management of gas and electric loads, the timing of fruit spraying and harvesting crops, and the protection of perishables in railroad transit.

FLIGHT ADVISORY WEATHER SERVICE

An important service to aviation was accomplished during 1943 in the organization of the Weather Bureau's Flight Advisory Weather Service. This Service will be directly associated with the operations of the Airway Traffic Control of the Civil Aeronautics Administration, which is responsible for the safety of aircraft in flight. Meteorologists, skilled in the interpretation of weather data, will be assigned to all the Airway Traffic Control units, to assure that the latter are at all times supplied with (a) the latest available information on existing meteorological conditions aloft, (b) trends of weather change of significance to current flights, and (c) specific information on anticipated developments upon which orders for the continuation or stoppage of flights may be based by the traffic controllers. These advisory weather units, already under organization at the close of the year, will be established at the 23 civilian Airway Traffic Control centers which, in direct liaison with Army Air Forces control units of similar purpose, now actively supervise the aviation of the United States.

OBSERVATIONAL AIR PROCEDURE

Another important contribution to the protection of aviation, particularly with respect to landings at the larger air fields, was the Congressional approval of the installation of ceilometers at 112 additional airport stations of the Weather Bureau. This instrument, designed to measure the heights of cloud ceilings during daylight as well as at night, has already proved its worth as a much-needed safety device. A pronounced advance in observational procedure was launched during the Texas coast hurricane in late July by Col. Joseph P. Duckworth accompanied by Lieutenants Ralph M. O'Hare and William H. Jones-Burdick of the Army Air Forces Instructors' School at Bryan Field, Texas, when they flew in an AT-6 airplane around and through the center of the hurricane to observe its size, intensity, location and the mechanics of its temperatures, pressures, winds, and clouds. In the past, forecasting of these larger storms has depended largely upon observations from ships in the vicinity of the storm, an advantage often reduced or lost by the efforts of ships' masters to avoid the storms as widely as possible. The successful flight of O'Hare and Jones-Burdick proves the practicability of airplane reconnaissance flights for the purpose of first-hand observation of hurricanes in action and doubtless marks the first step in a systematized program for obtaining essential information by this method.

DYNAMICS OF AIR CURRENTS

In research, Weather Bureau studies of the dynamics of large-scale air currents in middle latitudes produced a new technique for forecasting the trajectory of particles of air over three-day periods; and the method has been applied to the forecasting of winds at three kilometers in the midlatitude band of westerlies. New empirical formulas were developed also for forecasting the movements of long waves in the westerlies, and these waves were found to be related to the surface-weather tendency to vary in trends lasting for periods of a week or more. Studies conducted by the Weather Bureau in collaboration with the War Department's Corps of Engineers continued the development of techniques for analysing storms and estimating the maximum amount of precipitation that can fall in a given river basin from the most severe and long-lasting storm.

PROGRESS IN METEOROLOGICAL TRAINING

A direct and effective impetus to meteorological progress in the Western Hemisphere was accomplished during 1943 by the institution of a training class for Latin American meteorological students at Medillin, Colombia. Conducted under the auspices of the State Department and the Weather Bureau in cooperation with the Colombian Government, the course ran for seven months beginning in February and concentrated directly upon the basic subprofessional subjects of instrumentation, observations, weather map plotting and analysis, mathematics, physics, and English. Two hundred Latin American students attended, and the teaching staff consisted of 10 Latin Americans and an equal number of North Americans. Of the graduation group, 40 were chosen for advanced meteorological training in the United States and six diverted to further training in agricultural meteorology. This professional training will be followed by an internship of several months at active forecast offices in the Weather Bureau. The advanced training is financed by funds provided by Congress and the granting of 22 scholarships by the universities to which the students were assigned.

There was also established at San Juan, P. R. an Institute of Tropical Meteorology to give concentrated study to weather conditions in the Caribbean and adjacent areas, particularly as these apply to aviation and the inception, intensity, and movement of hurricanes. In intent and fact these extensions of meteorological study for application beyond our Continental borders represent the first active steps in the trend towards international meteorological cooperation that must inevitably follow the war. Results of that trend can hardly yet be anticipated, but speculation is already decidedly active among meteorologists on questions of communications, observational contents, timing, and distribution that will be more necessary than ever for the protection of world-wide air commerce in the future.

AMERICAN EXPLORATION

By Robert M. Brown
Rhode Island College of Education

GENERAL

The large museums, such as the Philadelphia Museum of Natural History, the American Museum of Natural History, and the Field Museum of Natural History, report no expeditions in the field during 1943. The Field Museum of Natural History, celebrating its fiftieth anniversary, announced 440 major expeditions to all parts of the world since the founding of the museum in addition to many hundreds of short trips. It was agreed to change the name from Field Museum to Chicago Museum of Natural History.

WEST INDIES

Dr. V. A. Tiedjens, of Rutgers College and the New Jersey Experiment Station, conducted a survey of the soil and water supply of the islands of Aruba and Curaçao to determine their availability as locations for growing perishable foods. The insufficient water supply and the scarcity of usable soils made the possibility of using soil-less culture methods of growing foods a major objective.

Dr. Harold W. Brown, recently appointed professor of parasitology at Columbia University, spent a number of months on the Virgin Islands, working on filariasis (filaria—a genus of slender worms parasitic in the blood of vertebrates).

CANADA

Dr. Hugh M. Raup, of the Arnold Arboretum, Boston, led a botanical and geological expedition along the Alaska Military Highway, returning on Sept. 17, 1943, collecting 2,500 botanical specimens along the highway.

MEXICO

Dr. E. Raymond Hall of the University of California returned from a collecting trip in southern Mexico in June, 1943. Over 600 specimens of mammals, such as pocket gophers, skunks, opossums, weasels, etc., were brought back. It was noted that these mammals were not evenly distributed but rather that they were found living in a few limited areas.

The Entomological Department of the University of Texas arranged late in 1943 for an expedition to the southern counties of Mexico and the desert regions near Monterey to add to its large collection of gnats and flies. The expedition will be financed in part by a grant from the Rockefeller Foundation.

GUATEMALA

It is reported that the sanitation experts, who are studying conditions along the Pan American Highway, have reached Guatemala. The studies include drinking water supplies, drainage, and tropical diseases.

OCEANOGRAPHY

By L. P. Disney
United States Coast and Geodetic Survey

GENERAL

Practically all oceanographic activities during 1943 were devoted to the solution of problems that arose in connection with the war. Many important contributions were made by the various governmental agencies and oceanographic institutions but most of these are in a classified status and can not be discussed at the present time. This summary, consequently, is very limited in scope.

HYDROGRAPHY AND CARTOGRAPHY

The Hydrographic Office of the United States Navy during the fiscal year ended July 1, 1943 published 157 new nautical charts and received reports covering over 13,000 soundings from naval sources. Of particular interest to oceanographers is a new chart of Antarctica (H. O. Chart No. 2562) which was compiled by Commander R. A. J. English, U. S. N. who served as commanding officer of the *Bear* on the Byrd Second Antarctic Expedition, and later as executive secretary of the United States Antarctic Service. This chart on the scale of 1:11,250,000 includes bathymetric as well as topographic features, and represents the most comprehensive picture of the Antarctic regions yet produced. In it are embodied the results of all explorations prior to 1943.

The Coast and Geodetic Survey confined its hydrographic work to harbor surveys and inshore hydrographic surveys in strategic areas for the armed forces. The manuscript of a new *Hydrographic Manual* (C. & G. S. Special Publication No. 143) was completed during the year. This manual, of about 1,000 pages, covers all phases of hydrographic surveying, including a description of the methods and technique in radio acoustic ranging for the determination of ship's position on offshore hydrographic surveys out of sight of land. Eighteen new nautical charts were published, most of them designed to meet special requirements of the Navy. More than 2,000,000 nautical charts were produced during the year to meet expanded needs of the Navy and Merchant Marine. Of special interest to oceanographers are the results of surveys made in the Gulf of Maine by the Coast and Geodetic Survey which show the depth of the silt deposited in many of the deeper basins in the Gulf. While it was impossible to indicate the depths of the silt on the printed nautical chart without causing confusion to the mariner, they have been indicated on the final survey sheets by different colored ink.

OCEANOGRAPHIC INSTITUTIONS

A large amount of the work at the Scripps Institution of Oceanography has been devoted to war problems. No work at sea has been undertaken, but in the laboratories intense activity has continued, particularly in the fields of marine bacteriology and physiology of marine organisms. The former work has been carried out under the direction of C. E. ZoBell and has been supported by a grant from the American Petroleum Institute. A considerable part of the work in physiology has been conducted by D. L. Fox and his collaborators and assistants. Studies of agar have been in progress conducted by C. K. Tseng in cooperation with members of the U. S. Fish and Wildlife Service; experimental work on the physiology of fishes has been continued by F. B. Sumner, and examination of phytoplankton samples by W. E. Allen.

In December, 1942, the reference book, *The Oceans: Their Physics, Chemistry, and General Biology* by H. V. Sverdrup, M. W. Johnson, and R. H. Fleming was published (Prentice-Hall, New York. 1,087 pp.). The book is a notable contribution to the study of oceanography, bringing up to date, in one volume, a comprehensive summary with interpretations of information covering the various fields of oceanography hitherto scattered through numerous technical publications. Papers published by the members of the staff and visiting scientists of this institution are quite extensive. Titles may be obtained from the Scripps Institution of Oceanography at La Jolla, Calif.

The Oceanographic Laboratories of the University of Washington did not undertake any new investigations during the year, the laboratories and the personnel being largely occupied with emergency work.

TIDAL WORK

Systematic tide observations were continued by the Coast and Geodetic Survey with special emphasis on their application to the war effort. Normal expansion of its system of primary tide stations, maintained for the purpose of hydrographic control, tidal research, and sea level variations, has been retarded by the war, new activities being limited to special projects originating with the specific needs of the Armed Forces and related agencies. The program of cooperative tide observations in Central and South American countries was continued with expansion in this field planned as war conditions permit. In connection with the primary tide stations maintained by the Bureau, emphasis has been given to investigations of the temperature of coastal waters.

In a study of the longest series of continuous systematic tide observations taken on the Atlantic Coast of the United States in "Tide Observations at Baltimore and the Problem of Coastal Stability" (*The Geographical Review*, Vol. XXXIII, No. 4, October, 1943), H. A. Marmer shows that there has been a relative rise in sea level in that locality, the rate during the last 13 years having been 1½ feet a century. Contrasted to this, recent tide observations and bench mark connections in Lynn Canal, Alaska indicate a reverse movement, *i.e.*, a gradual continuation of the rise of the land mass in that area. An upward movement of about 2½ feet was noted between 1890 and 1922, while observations in 1943 indicate a further rise of approximately one foot.

THE AMERICAN GEOPHYSICAL UNION

The twenty-fourth annual meeting was held at The George Washington University, Washington, D. C. on April 23-24. The papers presented before the Section of Oceanography covered a resumé of the activities during the year of the various Federal and educational institutions engaged in oceanographic work, together with discussions of deep-water flow in the eastern Pacific and problems of military oceanography. These papers are published in the *Transactions of the American Geophysical Union* for 1943 copies of which may be obtained from the National Research Council of the National Academy of Sciences, Washington, D. C.

PERIODICAL PUBLICATIONS

American Mineralogist
Mineralogical Society of America, Washington, D. C.
Economic Geography
Clark University, Worcester, Mass.
Economic Geology
Natural History Bldg., Urbana, Ill.
Geographical Review
American Geographical Society, Broadway and 156th Street, New York City.
Journal of Geography
458 Ahnaip St., Menasha, Wis.
Journal of Geology
5750 Ellis Ave., Chicago.
Journal of Geomorphology
Columbia University, New York City.
Journal of Terrestrial Magnetism and Atmospheric Electricity
Johns Hopkins Press, Baltimore.
Mining and Metallurgy
29 West 39th Street, New York City.
National Geographic Magazine
National Geographic Society, Washington, D. C.
Nature Magazine
295 Madison Ave., New York City.
Petroleum World
412 West Sixth Street, Los Angeles.
Transactions of the American Geophysical Union
5241 Broad Branch Road, N.W., Washington, D. C.
Travel
116 East 16th Street, New York City.
Travel America Guide
71 Vanderbilt Ave., New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ASSN. OF PETROLEUM GEOLOGISTS, Box 979, Tulsa, Okla.

AMERICAN GEOGRAPHICAL SOCIETY, Broadway at 156th St., New York City.

AMERICAN METEOROLOGICAL SOCIETY, Blue Hill Observatory, Milton, Mass.

APPALACHIAN MOUNTAIN CLUB, 5 Joy St., Boston, Mass.

ASSOCIATION OF AMERICAN GEOGRAPHERS, University of Minnesota, Minneapolis, Minn.

EXPLORER'S CLUB, 10 W. 72nd St., New York City.

GEOLOGICAL SOCIETY OF AMERICA, 419 W. 117th St., New York City.

NATIONAL GEOGRAPHIC SOCIETY, 1146 16th St., Washington, D. C.

OCEANOGRAPHIC LABORATORIES, University of Washington, Seattle.

SCRIPPS INSTITUTION OF OCEANOGRAPHY, La Jolla, Calif.

SEISMOLOGICAL SOCIETY OF AMERICA, University of California, Berkeley.

WOODS HOLE OCEANOGRAPHIC INSTITUTE, Woods Hole, Mass.

DIVISION XXI

CHEMISTRY AND PHYSICS

PHYSICAL CHEMISTRY

By Hugh S. Taylor
Professor, Princeton University

GENERAL

The majority of physical chemists in this country are actively engaged in one or other of the many war problems which present themselves for urgent solution and as a result little publication in physical chemistry results. Most of the war problems involve secrecy, and hence it will be necessary to wait until the post-war era to record the advances achieved in the present stress. The same is true for all the other countries actively engaged, and the literature definitely reflects this situation.

RUBBER-LIKE MATERIALS AND THEIR PROPERTIES

Some of the activity in the field of synthetic rubber production is reflected in publications dealing with the physico-chemical properties of rubber and the various elastomers which are being produced to replace the natural product. Prominent workers in this field include Treloar in England, and Wall, Guth, Mark, Flory and Rehner, Huggins, Eyring and Tobolsky, and others in this country.

The theory of elasticity which is developing started from the assumption that the retractive forces in stretched rubbers are due to the thermal motion of carbon atoms in long molecular chains. There is approximately free rotation around many of the bonds between the carbon atoms, and, in the absence of external restraints, the long fibrous molecular chains take up a randomly-kinked structure of which the average length, measured by the distance between the ends of the chain, is only a small fraction of the length of the fully extended chain. The further development of the theory envisages rubber as a three-dimensional network of such molecular chains, connected one to another at various places by means of vulcanization bridges.

It is now clear that a thermodynamic and statistical analysis of the properties of such three-dimensional networks of long molecular chains will describe the behavior of rubber-like materials. The chemical characteristics of the long molecules which make up the network structure will determine in part the physical properties of the rubber-like material produced and also the chemical properties such as its ageing in use on exposure to air, its tendency to get hard and brittle or soft and tacky with use. Flory and Rehner further show that the interaction of solvents with vulcanized rubber leading to swelling can also be described in terms of the three-dimensional network and the degree of cross-linking that produces the network. The effect of temperature on the degree of swelling can be computed. These studies mean that the scientific control of manufacture and processing of rubber-like materials can be more certainly developed with these important and significant advances in the theory of structure.

At the November meeting of the American Physical Society, a paper was presented which covered one phase of a cooperative research program by Princeton University and the Firestone Co. on physical properties of natural and synthetic rubbers. In this paper a new method was presented for investigating the properties of rubber-like substances, the measurement of relaxation of stress at constant elongation. This method affords a means of interpreting the mechanical behavior of rubber-like polymers in terms of their molecular structure. The behavior of various rubbers of industrial and scientific interest was studied by this method over a wide range of temperatures, and new molecular theories of rubber-like elasticity were established and confirmed. The deterioration of rubbers at high temperatures such as occurs in conditions of strenuous service was shown to be due to a chemical reaction of the rubbers with oxygen. The nature of this reaction, and its effect on the physical properties of many important rubber substitutes was studied by the new experimental method. Several lines of approach for controlling the rate of the reaction of rubbers with oxygen, and thereby slowing the deterioration of rubbers in service, were investigated. The combination of academic and industrial facilities made it possible to combine directly the latest physico-chemical theories and methods with practical experience in the physics and technology of rubber, thus short-circuiting the often slow interaction between "pure" and "applied" scientific research.

THEORY OF THE PHOTOGRAPHIC PROCESS

The scientific status of the photographic process has been admirably defined by the recent book under the above title published by Macmillan from the pen of Dr. C. E. K. Mees, of the Eastman Kodak Company, assisted by his collaborators in the Eastman Company's Research Laboratory. Its great value comes from its authoritative discussion of the fund of knowledge, built up by scientific workers during the last 50 years, which is scattered throughout the literature in several languages and in a great diversity of journals. The study of this new book is an essential preliminary to further work in this field.

It is largely on the basis of these scientific studies that the photographic industry has met so efficiently the calls that have been made upon it owing to the necessities of war. The scientific development continues unabated. Contributions from the Eastman Laboratory during the year covered such topics as the optical sensitization of photographic emulsions by dyes, the physico-chemical studies of aerial fogging of emulsions, photographic development as an example of a catalysed reaction at interfaces, the theory of the latent image and its interpretation in terms of the crystal structure, and crystal energies of the silver salts present in emulsions.

These published researches reveal the extraordinary resources of technique and scientific ability which go into the improvement of photographic materials. One is struck by the contributions that new tools of study such as the electron microscope, X-ray and electron diffraction of crystals, absorption spectra, make possible in following more minutely the various operations from initial photographic emulsion to finally developed image. This subject is an apt illustration of the penetration of science into all the various industries, initially rule-of-thumb in nature.

The electron microscope has proved to be particularly revealing as to what takes place when the grain of silver salts in the photographic emulsion is submitted to development. The silver which is produced has a characteristic filamentary structure not only with normal developers but also with developers chosen solely for their simplicity of composition rather than practical efficiency. It is evident that the newly formed silver atoms produced in the reduction reaction of development have mobility and can migrate for some distance along the silver surface already formed before they become incorporated in the filamentary structure. This is another example of metallic atoms in motion at low temperatures.

Long ago Langmuir showed that a high melting element such as molybdenum, when evaporated from a hot wire on to a glass surface cooled in liquid air, gave a thin film of metal which was only stable so long as the film was kept cold. On warming to room temperature the film shrivelled up to larger crystal aggregates. This "sintering" is occurring 2,800 degrees below the melting point. Similar migrations to form larger crystal aggregates are characteristic features of loss of activity by finely divided metal catalysts having extended surfaces per unit mass. Evidence for the mobility of metal atoms on metal surfaces was provided by Volmer and Estermann 20 years ago in their studies of the growth of mercury platelets perpendicular to glass surfaces cooled to —60°C. The hexagonal plates grew a thousand times faster along the hexagonal face than they grew in thickness. The only consistent explanation of this lay in the mobility of mercury atoms over the hexagonal face until it reached an edge where it was held. With silver, in the photographic development, the point of strongest attachment of mobile atoms appears to be at the end of the filament. "Hair-silver" was well known before these electron microscope studies of development. It is formed by high temperature reduction (200-600°C.) of silver sulfide.

MAGNETOCHEMISTRY

Magnetochemistry, the application of magnetic measurements to the solution of chemical problems, began with Michael Faraday more than a century ago. It enjoyed a vigorous growth under Pierre Curie and A. Pascal at the end of the 19th century. It reached its prime when G. N. Lewis pointed out the relationship between atomic magnetic moment and chemical valence. From 1934 to 1942 over 1,000 papers on magnetochemistry appeared. That, in outline, is the justification for a book on this subject recently written by P. W. Selwood (Interscience Publishers, 1943). The science has already reached the stage of applications. It can be used for analysis in the field of the rare earths, for detection of ferromagnetic impurities, in metallurgical and mineralogical control, in following changes in alloy structure, in catalysis and adsorption studies as well as in various other miscellaneous measurements. Selwood is of the opinion that one of the most fruitful fields for magnetochemical investigations is that of structural determinations on catalytically active surfaces, a field in which practically all the work published has appeared in the last two or three years.

Bhatnagar and his co-workers have shown that, in the classic freshman chemistry experiment, the production of oxygen by the decomposition of potassium chlorate, using manganese dioxide as a catalyst, the catalyst passes through an intermediate state of lower paramagnetism than manganese dioxide. Similar evidence is found with cobalt oxide as a catalyst for the reaction but not with ferric oxide. Selwood himself during the year published magnetochemical studies of copper catalysts in catalytic hydrogenation reactions. The copper can be activated with one per cent or less of nickel and becomes thereby ferromagnetic. Hedvall and his co-workers in Gothenburg, Sweden, published a long series of papers in which the correlation between magnetic properties and catalyst activity is the specific objective. Oxygen adsorbed on charcoal changes its magnetic characteristics with time and temperature. In this way the change from molecularly-bound gas to chemically-bound gas can be conveniently followed. The change is slow at room temperatures and increases with temperature so that at 200°C. within a few hours all the absorbed oxygen is in a chemically-bound condition. At liquid air temperatures, on the contrary, the oxygen remains almost indefinitely adsorbed as molecules by physical forces without chemical interaction.

Selwood recalls that on Nov. 8, 1845 Michael Faraday investigated the magnetic properties of dried blood and noted that he "must try recent fluid blood." Had he done so he would have discovered the difference between arterial and venous blood. Pauling and his co-workers in researches started in 1936 and carried on by them and others in the intervening years have utilized magnetic measurements to trace out the role of iron in hemoglobin and associated compounds as well as in the enzyme catalase. Vosburgh and his co-workers are applying magneto-chemical techniques to the study of complex ions of trivalent iron. These studies indicate, as was emphasized some years ago by Pauling, that magnetic measurements can differentiate complex ions into two classes, depending on whether, in the complex ion formation, free paramagnetic ions become paired or remain unpaired. Various organic acids operate in one or the other fashion in solutions of trivalent iron ions in perchlorate solutions.

PHOTO-PHENOMENA IN RIGID MEDIA

The fluorescence, phosphorescence, and photochemical reaction of materials embedded in solid media are receiving increasing study. G. N. Lewis and his co-workers from 1939 to date have stressed techniques of study of absorption of light in rigid solvents such as boric acid or glucose at room temperature, glycerol, triethanolamine, sulphuric or phosphoric acide at —60° to —80°C. A mixture of ether, isopentane, and alcohol (termed EPA) was found to be useful at liquid air temperatures. In rigid media, fluorescence persists for much more prolonged intervals of time than in fluid media, and phosphorescence appears. This has been attributed to a natural loss of mobility of the atoms in the rigid media. According to Franck and Pringsheim, all the factors which influence the system of proper frequencies of the embedded molecules must alter the fluorescence yield and the duration of phosphorescence.

Every influence which hinders the natural movement by reducing the amplitudes of certain proper modes of oscillation is apt to prolong a time lapse between excitation and internal conversion and thus to increase the intensity of fluorescence and the duration of phosphorescence. Lewis, Lipkin and Biegeleisen have studied the orientation of molecules produced photochemically in rigid solvents and are now turning their attention to photochemical reactions, principally photo-oxidations occurring in such media. The media permit the study of the ions and radicals produced by the illumination of many types of organic substances in rigid solvents. The spectra of these substances are being determined with a view to the better formulation of the laws of color in "odd" molecules. These laws are different from those for ordinary molecules.

CONCLUSION

The selection of material for an annual report on progress in any field of science must necessarily be somewhat arbitrary. In present circumstances the arbitrariness is emphasized by the prevailing circumstances. Much that is of outstanding significance must wait for the post-war reports. The topics here selected have been chosen to illustrate the thesis that new developments in applied science frequently await new horizons in pure science. Physical chemistry is continuing this type of service to industry even in the war years.

XXI. CHEMISTRY AND PHYSICS

PHYSICS

By Thomas H. Osgood
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WARTIME DEMAND FOR TEACHERS AND RESEARCH WORKERS

The search for professional physicists competent to undertake research important to the war effort continues undiminished throughout the country, while a new and equally insistent demand has sprung up as a result of the training programs established by the Army and Navy. The new demand is for teachers able at least to carry a class through one year of general college physics. College faculties have been turned topsy-turvy in an attempt to provide enough experienced instructors for the technical subjects required. Men who have been specialists in a wide variety of different fields have been trained or retrained in physics and are now working shoulder to shoulder with professional physicists in the gigantic instructional program which the Army and Navy have entrusted to colleges and universities. At the same time, the directors of research and development in physical laboratories of all kinds are enlarging their research teams by recruiting young graduates who are eager to gain experience in solving practical problems.

NEW NATIONAL HEADQUARTERS

Because the number of physicists in training in the higher branches of the subject has declined markedly since 1941, some of these wartime recruits to physics will undoubtedly remain in their new profession, and the problems of assuring satisfactory support of scientific research, of achieving adequate professional organization, and of maintaining high professional standards, loom large in the future of physics. At least one important step towards the welding of the heterogeneous groups of physicists into one body has been taken by the American Institute of Physics. With funds subscribed by the physicists of the country this non-profit organization has acquired a national headquarters at 57 East Fifty-fifth Street, New York. This will be occupied by the Institute, representing the various societies of professional physicists, early in 1944.

COSMIC RAYS

A second report containing an analysis of further data obtained during their world-wide cosmic ray survey has been published by Millikan, Neher, and Pickering (*Phys. Rev. 63*, 234). Using the magnetic field of the earth as a giant analyzer of cosmic ray particles, they show first that their experimental results are consistent with the hypothesis that the rays are created by atomic annihilation in interstellar space; and second, that the energy spectrum of cosmic rays, as deduced from the variation in intensity with geomagnetic latitude, is consistent with the relative abundances of known atoms in space, on the basis that individual primary rays possess energies proportional to the masses of the atoms of whose destruction they are the only observable relics. Apart from this general study of the origin and energy spectrum of the primary rays, most work on the subject has been of narrower scope, dealing with details of the processes by which the rays are absorbed in the atmosphere and the earth. In particular, much attention has been paid to the penetrating component which is currently believed to consist of fast-moving mesotrons, and which is also responsible for initiating that remarkable sequence of events in which the energy of a cosmic ray is tossed backwards and forwards from particles to photons and then from photons to particles, and is, at the same time, gradually frittered away in trivial secondary processes.

Typical of work designed to study the production of electron showers by mesotrons is that of Wilson and Hughes, (*Phys. Rev. 63,* 161) who transported their apparatus to the Isle Royale copper mine in northern Michigan, where it was used at various distances below the surface of the earth, to a depth as great as that equivalent to 645 meters of water. The purpose of the experiments was to study the absorption of penetrating cosmic rays underground, and to find out if the primary particles there were ionizing or non-ionizing. Under the appropriate conditions of measurement, the absorption curves at 71 m. and at 657 m. turn out to be the same, so that there can be no large fraction of non-ionizing primaries in cosmic rays at such depths. Over all, the results show that the behavior of the penetrating rays underground is similar to that of ionizing mesotrons, which produce showers of electrons of such energies that they are readily absorbed by a few cm. of lead.

The experiments of Wilson and Hughes dealt only with cosmic rays which have penetrated far below sea level. At high altitudes other experiments tell a different story. A report by Regener (*Phys. Rev. 64,* 250) demonstrates that at an altitude of 10,000 feet, nine tenths of the recorded showers are produced by non-ionizing primary rays, and only one tenth by ionizing particles. Earlier work by Janossy and Rochester indicated that, at sea level, some non-ionizing primaries produce showers. Therefore, as the penetrating rays pass through more and more matter, the proportion of those non-ionizing primaries which produce showers decreases very fast.

Mesotrons disintegrate spontaneously and, in this process, follow the laws of radioactive decay. The products are probably an electron and neutrino, between which most of the mass energy of the disappearing mesotron is shared. Cloud chamber photographs of the process are not yet numerous enough to make this interpretation certain; nevertheless, it forms a good working hypothesis. The lifetime of mesotrons is an important quantity, since it controls to some extent the absorption of the particles in tenuous media. New experiments to determine this time have been described by Rossi and Nereson (*Phys. Rev. 62,* 417) and by Auger, Maze and Chaminade (*Phys. Rev. 62,* 307).

The experiments of Rossi and Nereson give a value $2.15 \pm 0.07 \times 10^{-6}$ sec. and those of Auger, Maze and Chaminade, 1.3×10^{-6} sec. The latter is estimated to be correct only within 50 per cent, so there is a possibility that the two results are not contradictory. For the time being the former value is to be preferred.

CERENKOV RADIATION

In 1934 the Russian physicist Cerenkov discovered a new radiation associated with the passage of high speed electrons through matter. The portion of the radiation which falls in the visible region of the spectrum can therefore be observed only in the case of transparent media. That the radiation represents a new phenomenon is evident from its remarkable directional properties. With a homogeneous beam of electrons and a thin film of material, it is emitted only along the generators of a cone whose axis coincides with the beam. Since the first announcement perhaps half a dozen reports have been published, dealing with its production, and the dependence of its properties upon electron velocity and upon the refractive index of the medium.

Cerenkov radiation can not be produced unless electrons move with velocities greater than that of light in the transparent medium. If coherent radiation is produced along the path of the electron, then it will be emitted only in a direction which makes a certain angle θ with the direction of the electron beam. Then $\cos\theta = 1/\beta n$, where n is the refractive index of the substance, c is the velocity of light in vacuo, and βc is the velocity of the electrons.

The usual experimental arrangement is to have the thin film inside a small conical mirror, on its axis, and to photograph the radiation at a distance which allows for protection from the penetrating x-rays which are formed when the electron beam is stopped by the mirror. It is clear that, according to the simple theory, there are only two matters which require checking—the dependence of Θ on β and the dependence of Θ on n. Both these things have been done, the first by Wyckoff and Henderson (*Phys. Rev. 64*, 1) over the range 0.240 to 0.815 Mev, and the second by Collins and Reiling (*Phys. Rev. 54*, 499) for three materials of different refractive indices. In no case is there any certain departure from the predictions of the simple theory.

IONS

In all but the simplest of monatomic vapors, the process of ionization is likely to proceed by stages. When a beam of electrons whose energy can be increased gradually is allowed to strike the gas to be ionized, different types of ions first appear at different values of electron energy. Such events are termed appearance potentials of the ions in question. When a particular ion can be formed by alternative sequences of events, it may have more than one appearance potential. In general, the appearance potential of an ion may be represented as the sum of three quantities—a dissociation energy, an ionization energy, and an energy equivalent to the kinetic energy and energy of excitation of the products at the instant of ionization.

In any modern apparatus for determining ionization potentials, it is necessary to pump the gas to be investigated continuously through the ionization tube, in order that the appropriate high vacuum may be maintained in the adjoining spectrograph. Hipple and Stevenson (*Phys. Rev. 63*, 121) have made use of this circumstance to design an ionization apparatus and spectrometer in which the substance to be investigated is allowed to enter the ionization region only through a tiny furnace, whose temperature can be regulated to fix the required degree of dissociation of entering molecules. The interest of these men has centered of late on the methyl and ethyl radicals, derived from the breakdown of lead tetramethyl and lead tetraethyl. Their new technique has made it possible to distinguish clearly between the different products of thermal decomposition, so that appearance potentials can be ascribed to ions resulting from specific dissociation processes. In addition, the improved accuracy of the measurements, coupled with a certainty of interpretation, has gone far towards removing certain inconsistencies in values of ionization and dissociation energies related to the ethyl and methyl radicals.

THERMAL DIFFUSION

The law of force between two similar molecules can not be written down in exact mathematical form. The chances are that, if it could, it would be too elaborate to be handled in the theory of thermal diffusion with the analytical techniques now available. Certain facts are, nevertheless, obvious. The magnitude of the force diminishes with increasing separation of the particles, provided they are more than a certain distance apart. In a gas, the molecules are always more than this critical distance apart. In the case of some molecules, the force may increase gradually from a negligible value at infinity, and then suddenly, at a certain distance, become very large. In other cases the force may increase smoothly all the way in, corresponding to what are sometimes called soft molecules. In recent mathematical work on thermal diffusion the calculations have been made particularly for four types of molecular models. The first is the solid elastic sphere, or perfectly hard molecule; the others are represented as inverse power laws.

A few years ago most experiments were made with long thermal diffusion columns in an effort to separate isotopes on a worthwhile scale and to check the salient features of the theory. Since the beginning of 1942, however, many experimenters have had a different objective. They have assumed the essential correctness of the theory of thermal diffusion and have used it to deduce new information concerning intermolecular forces, or at least to find out what type of simple intermolecular force most accurately describes the behavior of certain molecules. To do this it is not necessary to achieve a sharp separation of isotopes because simple mass spectrographs can be used to analyze the enriched gaseous mixtures with more than sufficient precision. Therefore, simple apparatus consisting of two glass bulbs joined by a narrow tube has been used in place of long columns. For example, Watson and Woernley (*Phys. Rev. 63*, 181), using such a method, have investigated the behavior of ammonia containing about 15 per cent of N^{15}. Perhaps the most interesting of their observations is that the direction of the process of thermal diffusion reverses at about room temperature, in qualitative agreement with earlier results of Grew upon neon-ammonia mixtures. They present an explanation which is based upon the known dipole behavior of the ammonia molecule. Further experiments with molecules of related types will undoubtedly throw new light on long range intermolecular forces.

X-RAYS

At the Massachusetts Institute of Technology there is a high voltage laboratory and generator (*Rev. Sci. Inst. 12*, 534) constructed in part from equipment formerly used at the Round Hill station. This is of the Van de Graaff type, in which the necessary electric charge is hoisted up to a high voltage terminal on wide charging belts made of insulating material. The charge descends again to ground potential down a long accelerating tube which also connects the high voltage terminal to ground. Since the time of their construction, most high voltage generators in the United States have been used for experiments on atomic disintegration. The latest report by the operators of the M. I. T. generator deals, however, with penetrating x-rays. Perhaps this is a sign of the times, for there has been a rapid expansion in the use of x-rays in industrial testing, while atomic disintegration is still in the experimental stage. For testing large masses of metal, penetrating x-rays are needed. The voltages at which commercial tubes operate are continually increasing, and information is therefore needed, derived from experimental installations, about such obvious matters as the production and absorption of high voltage x-rays. The researches of Petrauskas, Van Atta, Myers and Northrup (*Phys. Rev. 63* 389) on these topics cover the range 0.7 Mev to 2.5 Mev, corresponding to limiting wavelengths between 0.017 and 0.005A.

Radiation from an x-ray tube target is not emitted with equal intensity in all directions. In the case of these penetrating x-rays the asymmetry is very marked. For example, at 2.35 Mev, the intensity at 90° from the direction of the electron beam is less than 20 per cent of that in the forward direction. With regard to the efficiency of production an interesting trend is found which is in reasonable agreement with theory. In a tube operating at 100,000 volts, the fraction of the electrical energy which reappears as x-radiation is considerably less than 0.01. As the voltage increases, however, this fraction also increases, until at 2.35 Mev the efficiency is about 0.1.

INSTRUMENTS

A new method of examining metallic surfaces with the electron microscope has been developed by Heidenreich and Peck (*Jour. App. Physics 14*, 23). The process is a two-stage one. First, the surface to be examined is prepared upon a small piece of the metal, and then plastic polystyrene is molded on to it and squeezed into intimate contact with the surface by a pressure of a few thousand pounds per square inch at 160°C. After cooling, most of the metal is sawed off, leaving a piece as thick as a small coin imbedded in the polystyrene. The usual procedure is then to dissolve away the remaining metal with dilute acid. A negative imprint of the original metal surface is thus left on the plastic.

The plastic is now mounted in a vacuum above a conical filament holding small particles of pure quartz. Upon heating to the right temperature, silica is evaporated on to the polystyrene. This operation must be performed quickly lest the temperature of the plastic block rise so high as to cause deformation of the surface details. It happens that freshly deposited silica molecules are extraordinarily mobile on a polystyrene surface. This remarkable mobility carries silica molecules even into little crannies, and once the surface is covered the outer side of the silica film builds up rather smoothly. The plastic with its surface layer of silica is then cut up into small pieces; the polystyrene is dissolved away in a dish of ethyl bromide, leaving tiny areas of silica film floating on the surface. These pieces are mounted on frames and are then ready for the electron microscope.

The limit of resolution obtainable with such replicas is between 150A and 200A, poorer by a factor of three or four than the best performance of the electron microscope under ideal conditions, but surpassing that of the optical microscope twentyfold. So many problems of film and surface structure await solution in this range that a new type of electron microscope has been developed in the laboratories of the General Electric Company expressly for the work. In this new microscope high resolving power has been consciously sacrificed for simplicity, compactness and mobility. Designed by Bachman and Ramo (*Jour. App. Physics, 14*, 155), it operates entirely on electrostatic principles, without the precise current regulation which is so necessary in other types of microscope. The lenses are entirely electrostatic. An image of intermediate magnification but of high resolution is formed by them upon a fluorescent screen of which a microphotograph is then made with an optical microscope. Within the limits of its design, the instrument possesses many advantages, mainly of simplicity and electronic stability, over the magnetic lens type of electron microscope.

An important new instrument for cosmic ray study is the high pressure cloud chamber constructed by Johnson, DeBenedetti and Shutt (*Rev. Sci. Inst. 14*, 265). The absorbing power of the gas of a chamber operated near atmospheric pressure is so small that such a chamber is usually counter-controlled; that is, it is designed to operate only when other electrical devices indicate that a cosmic ray has actually passed through it. Even so, the accumulation of data concerning special details of cosmic ray absorption is a wearisome undertaking. The new high pressure chamber is filled with argon and operates at pressures up to 200 or 300 atmospheres. The chamber itself is not unusually strong, but it is immersed in transparent oil in a 5-ton tank so that the hydrostatic pressure is borne by the steel walls of the tank, while the pressures inside and outside the chamber are nearly equal. The lights for illuminating the chamber are immersed in the oil, and photographs are taken through a small window in the outer tank. One photograph taken at 200 atmospheres will show all that happens within a vertical circle in the atmosphere having a diameter of about 200 ft. Even if the chamber is operated at random times the number of tracks recorded on each photograph is very large. It will be particularly suitable for the study of rare events like the disintegration of mesotrons, of which only three or four good pictures have been obtained in half a dozen years with cloud chambers of conventional design.

GENERAL TRENDS

The number of pages in physics journals currently devoted to reports of research is much smaller than it was a year ago. This is a natural consequence of the war. More research than ever before is actually being done, but much of it is of so confidential a nature that its publication must be delayed in the interests of national safety. A great deal of this work involves applications of classical rather than of modern physics, and it is likely that, after the war, our colleges and universities where physicists are trained, will place more emphasis on the older, classical aspect of the subject than they have in the last ten years. Furthermore, there is a growing demand for scientists with wide training not only in the fundamentals but in the applications of physics to practical problems, and new courses in applied physics will undoubtedly be organized in many institutions as part of the regular undergraduate training of specialists in physics.

ORGANIC AND INORGANIC CHEMISTRY

BY C. M. SUTER
WINTHROP CHEMICAL COMPANY, INC.

WAR CURTAILMENT OF RESEARCH PUBLICATION

The decrease in the publication of the results of chemical research becomes more serious as the war period lengthens. For example, the size of the *Journal of the American Chemical Society* decreased in 1942 about 13 per cent below that of the 1940-41 level. In 1943 a further drop of about 13 per cent occurred. The decrease is caused not by a decrease in research being done, since there is probably more under way than ever before, but by a diversion of energy to problems bearing directly upon the war effort; the results of this work are for the most part not publishable. Much of the material that is being published undoubtedly represents research carried out in pre-war years.

Another obstacle to the publication of the results of research is a serious shortage of paper. Unfortunately scientific journals have been required to decrease their consumption of paper in approximately the same percentage as do other publications, thus preventing the American Chemical Society, for example, from taking new subscriptions to its journals or printing extra copies for those who may wish to purchase back copies in later years. On the other hand, many foreign books and journals have been made available at a reduced cost by reprinting them in this country under the auspices of the Alien Property Custodian. This policy has been of great assistance to research workers. The receipt of current foreign journals has been delayed and irregular. The efforts of the staff of *Chemical Abstracts* to furnish abstracts of the foreign literature as promptly as possible have been of great value to research laboratories in this country.

BORON

Sodium tetraborate or borax is a familiar and common chemical but information available about the element boron is relatively meager. Laubengayer, Hurd, Newkirk, and Hoard (Cornell University) emphasize that what is commonly referred to as "crystalline boron" is a compound of boron and aluminum, AlB_{12}; they have succeeded in preparing single crystals of boron of high purity and have measured some of its physical properties. The true crystalline boron is resistant to the attack of most chemical reagents, whereas powdered boron is highly reactive. Crystalline boron falls in the class of "semimetallic" solids by virtue of its great hardness, metallic luster, opacity, and electrical properties. The discovery that boron, added to steel, increases its hardenability, which was made several years ago, has become of increased interest recently because of the scarcity of many of the usual alloying metals.

CHLORINE AZIDE

The existence of a compound, ClN_3, chlorine azide, has been known for some time but it has been little studied because of its instability. In studying its properties Frierson, Konrad, and Browne (Cornell University) report that it was necessary to wear masks and breastplates of sheet iron. During their studies scores of violent detonations occurred with consequent demolition of apparatus. Chlorine azide freezes at —100° to an explosive yellow solid. The liquid boils in the neighborhood of —15°. An attempt to prepare the interesting compound $(N_3)_2$ by the action of chlorine azide with silver azide was not successful, a blue unstable compound, N_3AgCl, resulting.

RED ZINC OXIDE

It has been reported by Ehret and Greenstone (New York University) that a red colored zinc oxide may be prepared by heating white zinc oxide with ammonium nitrate. A careful study of the properties of this oxide indicates that it contains about 0.02 per cent more zinc than does the ordinary oxide. No entirely satisfactory explanation for the color of the oxide has yet been found.

OZONE

An electron diffraction investigation of ozone by Schend and Spurr (California Institute of Technology) indicates that the three atoms of oxygen in this compound exist in the form of an isosceles triangle which is 1.26 Å on a side. This conclusion is not in close agreement with that derived from some other physical measurements; however, the reliability of the electron diffraction method when dealing with small molecules makes the suggested structure the preferred one.

CATALYTIC REACTIONS

Details of the advances made in the catalytic procesess, which are of great military importance, will not become available until after the war. Improvements have been made in the production of butadiene from petroleum or alcohol and in the preparation of hydrocarbons of high anti-knock value for aviation gasoline. For example, triptane can now be made on a large scale. Triptane is the common name given some years ago to the hydrocarbon, 2,2,3-trimethylbutane, which has considerably greater anti-knock value than the 100-octane fuel previously believed the best that could be made on a practical scale. During the year it was announced (Haensel, Universal Oil Products Inc.) that a catalytic process has been discovered whereby this compound can be made at a cost which is not prohibitive, at least during wartime. Petroleum is becoming more and more a starting material for chemical syntheses rather than a material which undergoes simple physical treatment before use. The discovery of means for making hydrocarbons which can be used in motors of high efficiency is proving to be as significant a factor in the production of gasoline as the original cracking process.

Badin (Princeton University) reported on the conversion of normal alcohols by the action of a nickel catalyst into olefins and paraffins containing one less carbon atom. In as much as paraffin hydrocarbons with an odd number of carbon atoms are difficult to prepare by methods hitherto available, this result has considerable interest. Alcohols having an even number of carbon atoms are commercial products.

Since the discovery of the usefulness of hydrogen fluoride in bringing about condensation reactions, interest in this compound has increased. Simons and Meunier (Pennsylvania State College) have found that *t*-butyl chloride reacts with cyclohexene in hydrogen fluoride to give a 65 per cent yield of cyclohexyl chloride together with some cyclohexyl fluoride and 3-*t*-butylcyclohexyl chloride. In a later investigation it was found that aromatic ketones undergo self-condensation in the presence of hydrogen fluoride.

Acetophenone yields first dypnone and then a resin. Only ketones with one or more alpha hydrogens undergo this condensation. Henne and Plueddeman (Ohio State University) have investigated further the addition of hydrogen fluoride to halogenated olefins.

BUTADIENE PRODUCTION

In order to produce the 735,000 long tons of Buna S synthetic rubber per year called for by the revised rubber program, some 688,500 tons of butadiene are necessary. In liquid measure this would be about 260,000,000 gallons. In as much as butadiene was only a laboratory chemical a few years ago and no one in this country had had experience in its large scale production, the design, construction, and operation of the new butadiene plants represent remarkable achievements by chemists and chemical engineers. Frolich and Morrell (Standard Oil Development Co.) in reviewing the problem have divided the methods of butadiene production into three categories: (1) production from ethyl alcohol and other two-carbon compounds; (2) production from four-carbon compounds including the butylene glycol obtainable from fermentation processes and butane isolated from petroleum; (3) production by decomposition of compounds having more than four carbon atoms which practically means the decomposition of hydrocarbons obtained from petroleum.

The first process, using alcohol as the starting material, has been in use in Russia for some time. The German production of butadiene has apparently been chiefly from the 1,3-butylene glycol made through a number of steps from acetylene. A process developed in this country consists of fermenting grain to produce a high yield of 2,3-butylene glycol and conversion of this to butadiene. How much, if any, butadiene will be made by this process during the present emergency has not been divulged. The isomeric normal butenes obtained as by-products in the cracking process can be converted into butadiene by chlorination followed by splitting out of hydrogen chloride or by thermal treatment. The reaction involving chlorine gives rise to corrosion problems which militate against its large scale use.

One of the important problems that arose in connection with butadiene production is the analysis of hydrocarbon mixtures boiling in the butadiene range. Closely related to this is the problem of purification of butadiene to the extent necessary for its use in rubber production. Details of the solutions for this problem are not yet available.

ANTIMALARIALS

The seizure by the Japanese of the lands from which the United Nations previously obtained the quinine used in combating malaria, combined with the necessity of maintaining armies in malarial regions, increased enormously the demand for the synthetic antimalarials—Atabrine and Plasmochin—and instigated widespread research for better antimalarial drugs. Sherndal (Winthrop Chemical Co.) has outlined the history of the development of Atabrine and Plasmochin and has indicated the magnitude of the problem of synthesizing these relatively complex compounds on a large scale. Total production of Atabrine for 1943 approximated 2,500,000 tablets, some ten times the estimated requirements per year made in 1940. The production of Atabrine in 1943 was sufficient to treat some three times as many cases of malaria as the pre-war supply of quinine could have cared for.

It is to be expected that, from the tremendous amount of research being done in the search for additional antimalarials, new compounds will be developed that are more effective than any now known. Most of the work done so far has not been published, and discoveries in this field will not be described in detail until after the war.

NITROPARAFFINS

One of the most interesting groups of compounds made available to the organic chemist in recent years is composed of the nitro derivatives of simple aliphatic hydrocarbons. Although these compounds are of interest because of their solvent action, it may be expected that their greatest value will lie in their use as intermediates in chemical syntheses. Hass (Purdue University) has reviewed recent developments in the chemistry of the nitroparaffins. By suitable reagents a compound of this type can be reduced to an amine, hydrolyzed to an aldehyde (or ketone if it is a secondary nitro group) or to an acid, and nitrosated to a nitrolic acid.

A large percentage of the chloropicrin produced in the United States comes from the chlorination of nitromethane. Because of the difficulties in handling chloropicrin it is possible that 1,1-dichloronitroethane will come to be preferred for use against insects. Many aminoalcohols have been prepared by condensing nitroparaffins with aldehydes to nitroalcohols followed by reduction. The aminoalcohols have value in the production of emulsifying agents, and esters of the nitroalcohols give promise of use as plasticizers for cellulose derivatives. Certain of the nitroesters can be decomposed by alkali to nitroolefins which in turn can be reduced to new saturated amines. As study of the nitroparaffins proceeds the list of these and other known reactions will undoubtedly be greatly extended.

VITAMIN CHEMISTRY

A number of new compounds related to vitamin A have been isolated by Embree, Shantz, and Cawley (Distillation Products). A new dihydric alcohol with the probable formula $C_{40}H_{60}O_2$ has been found in whale liver oil. This compound has no activity as such but is transformed into vitamin A when heated above 200°C. It is, therefore, a provitamin A. Another compound which has been isolated from shark liver oil has been named subvitamin A. This has little or no activity and may be an oxidation product of vitamin A_1 or A_2. Further work has also been carried out on anhydro vitamin A. This is formed from vitamin A by treatment with hydrochloric acid or antimony trichloride. This compound is an unstable hydrocarbon which has some vitamin A activity and probably does not have the extra ring structure which some workers have indicated that it contained.

A modified synthesis of vitamin B_6 has been reported by Mowat, Pilgrim, and Carlson (Lederle Laboratories). This vitamin has been one of the more expensive of the vitamins which have been synthesized. It is too early to know whether the new synthesis will make this substance more readily available.

The isolation of the three forms of vitamin E, the *alpha, beta* and *gamma* tocopherols, has been investigated by Baxter *et al* (Distillation Products). They have isolated these three compounds from wheat germ and cotton seed oils and prepared new crystalline esters of them. Joffe and Harris of the same laboratory have suggested that crystalline *alpha*-tocopheryl hydrogen succinate be used as a standard of reference for vitamin E activity rather than the non-crystalline acetate suggested in 1942 by Hume. The other tocopherols are considerably less potent than the *alpha* compound.

Although the work of Shemiakin and co-workers on vitamin K was carried out in Russia, it has been published in an American journal and is of general interest to American workers. They believe that the true vitamin K is phthalic acid, and the compounds hitherto given as forms of vitamin K are actually the provitamins. Phthalic acid has only a brief vitamin K action when administered as such because it is rapidly excreted; hence it is necessary to have some compound present in the body that provides phthalic acid at a slow rate. This view is supported by the activity of simple phthalic acid derivatives such as ethyl phthalate. Their results suggest the possibility of preparing many relatively inexpensive compounds having vitamin K activity because phthalic acid derivatives are readily accessible.

ANTIBIOTICS

Although a tremendous amount of chemical work is undoubtedly under way in the investigation of the nature of penicillin, nothing of importance regarding the chemistry of the compound has been published except for the recent announcement that investigators in the Squibb Laboratories had crystallized the sodium salt. Since the penicillin molecule seems to be a relatively simple one, it may be expected that information concerning its structure will not be long delayed. However, any information gained concerning this substance may not be published until after the war as the compound is of great interest to the armed forces and divulging information concerning it would be of value to the enemy.

The remarkable properties of penicillin have not only intensified the interest in the chemical nature of this compound (or compounds) but also in other antibacterial substances of microbiological origin. Johnson, Bruce, and Dutcher (Cornell University) recently published a report on gliotoxin, a compound produced by the imperfect fungus *Gliocladium fimbriatum*. The empirical formula has been found to be $C_{13}H_{14}N_2O_4S_2$. This is a powerful bacteriostatic agent *in vitro*. Although its usefulness may be limited by its toxicity, a knowledge of the structure should be of value in the synthesis of other active compounds. The investigation of antibacterial agents derived from natural sources may well prove to be the most important field for research in chemotherapy yet found. The results obtained with penicillin are so remarkable as to indicate that the treatment of disease will be revolutionized within the next few years.

SULFONAMIDES

The production of the sulfa drugs was in the neighborhood of 10,000,000 pounds in 1943. It was announced by the War Production Board that supplies of these compounds are ample for both civilian and military needs. It has now been eight years since the use of the sulfonamides was introduced into chemotherapy in the United States. If, however, it becomes possible to prepare compounds of the penicillin type at low cost and on a large scale, it may be expected that sulfonamide therapy will largely be replaced by the use of these more efficient anti-bacterial agents.

An interesting contribution to the theory of sulfanilamide action has been made by Kumler and Daniels (University of California). They point out that it appears to be necessary for the amino group attached to the benzene ring to be able to exist in a resonating form in which it is coplanar with the benzene ring. This accounts for the lack of activity of substituted sulfanilamides in which the substituent interferes with such an arrangement of the amino group. According to their theory, *p*-nitroaniline should have sulfa-drug action, and this is true for *in vitro* tests. The activity of certain of the aminoacridines can also be explained by their existence in active resonating forms. Previously Albert and co-workers had related the basicity of the aminoacridines to their resonance behavior and had also correlated basicity with antibacterial action.

SEX HORMONES

A number of papers have appeared dealing with the synthesis of compounds related to substances known to have estrogenic activity. Baker (Lederle Laboratories) has prepared several analogs of hexestrol, including compounds that are geometrically related to estradiol, but these showed no estrogenic activity. However, compounds in which the *p*-hydroxyphenyl groups of hexestrol were replaced by 3,4-dihydroxyphenyl or *p*-hydroxybenzyl had estrogenic activity but to a lesser degree than hexestrol itself. Stuart and Tallman (Schieffelin and Co.) have studied the effect of introducing various groups into 1,3-di-(p-hydroxyphenyl)-propane. Here the presence of a simple alkyl or aryl substituent attached to the aliphatic chain does not appreciably affect the estrogenic activity.

In an investigation of the course and mechanism of the reactions of certain Grignard reagents, Kharasch and co-workers (University of Chicago) found a new synthesis of hexestrol dimethyl ether from which hexestrol may be made. This synthesis gives a considerably higher yield starting with anethole than do previously known procedures. A new synthesis of diethylstilbestrol has also been reported from this laboratory. It was found that anethole hydrobromide, on treatment with sodamide in liquid ammonia, gives a mixture of the *cis* and *trans* forms of the dimethyl ether of diethylstilbestrol which can be converted into diethylstilbestrol by known methods.

SAPOGENINS

The work of Marker and his collaborators (Pennsylvania State College) on the chemistry of sapogenins has been extended to an examination of over 300 plants from Mexico and the United States. A preliminary report of this work describes the isolation of 13 new sapogenins from 66 plants. From another group of 162 plants, eight previously known sapogenins were isolated. Several of the plants studied also yielded sitosterol. The structures and some of the reactions of these compounds were reported, but detailed work with them will be delayed because of the pressure of war work.

LIGNIN CHEMISTRY

In a continuation of their work on the chemistry of lignin and related compounds, Kulka and Hibbert (McGill University) have isolated two new compounds from the lignin of maple wood. These were found to be very similar in structure to the phenolcarboxylic acids obtained by the action of molds on glucose as reported earlier by Raistrick and Oxford. This is regarded as supporting Hibbert's theories on the importance of lignin in the metabolism of plants. Determination of the chemical nature of the non-cellulosic fraction of wood has been and is a particularly difficult problem. The contributions of Hibbert and his co-workers in this field in recent years have been outstanding.

COMPOSITION OF SAGE BRUSH

Kinney and Sugihara (University of Utah) have investigated the composition of sage brush leaves and flower stalks with reference to their food value for animals. Their results show that sage brush contains a relatively high percentage of fats and carbohydrates together with adequate protein and ash. A glucoside is responsible for the bitter taste. Alkaloids are present in small quantities but neither quinine nor santonin could be demonstrated despite earlier reports that these were present.

ORGANIC COPPER COMPOUNDS

It has been found by Bolth, Whaley, and Starkey (University of Maryland) that it is possible to prepare arylcopper compounds by the action of finely divided metallic copper upon aryldiazonium borofluorides. These arylcopper compounds are quite reactive, hydrolyzing immediately when water is added to their benzene solutions. The formation of these compounds suggests an explanation of the Sandmeyer and other reactions involving diazonium salts in which copper or a cuprous salt is a catalyst. Attempts to produce silver compounds by this same reaction were unsuccessful, probably because of the instability of the arylsilver compounds.

SYNTHESIS OF KETONES

A commercial source of branched-chain ketones has been found by Byrns and Doumani (Union Oil Co.) in the condensation of acid anhydrides with branched chain olefins. Sulfuric acid and zinc chloride are suitable catalysts for the reaction. The compound obtained from diisobutylene and acetic anhydride was shown by ozonolysis to be 4,6,6-trimethyl-3-heptene-2-one. The gasoline from copolymerizing propylene and the butylenes was also utilized as a source of branched chain olefins, fractional distillation giving four fairly definite fractions.

PHOTOSYNTHESIS

The important and interesting problem of the mechanism of formation of carbohydrates in photosynthesis has been reviewed by Gardner (Massachusetts Institute of Technology). He concludes that the old theory, which assumed formaldehyde as the first reduction product of carbon dioxide and an intermediate, is untenable. It is likely that D-glyceraldehyde is the only carbohydrate synthesized as such by the plant; this is converted by condensations and other reactions into the other naturally occurring sugars. D-Glucose is believed to be the only D-hexose synthesized. Rearrangements of this compound can account for the formation of the other hexoses, and pentoses may arise from decarboxylation of hexuronic acids. Although these suggestions are plausible, there are many of the reactions suggested that have as yet little direct evidence to support them.

ELECTROCHEMISTRY

By Colin G. Fink
Professor, Columbia University

GENERAL

In the electrochemical field the year 1943 will ever in the future be recorded as one of the most active and productive. Although many of the year's accomplishments, notably those of the industrial type, can not be recorded at this time on account of the intimate bearing of these accomplishments on the war effort, we can rest assured that detailed accounts will become available as soon as peace is declared. However, at this time those discoveries and developments that have been duly censored and passed for publication may be recorded.

THE LIGHT METALS

The output of aluminum and magnesium continued at a tremendous rate; new peace uses of these metals were seriously sought. In view of the low production cost of these two metals keen competition with the more costly metals such as copper and nickel is to be anticipated. On the volume basis, aluminum and magnesium are, next to iron, the lowest cost metals. It appears certain that magnesium as well as aluminum will find many new uses in many new lines such as hardware fittings, decorative metal parts, household and office fixtures, etc.

The use of lithium, the lightest of all metals, in controlled atmospheres for heat-treating steels has grown very rapidly—far beyond all expectation. Similarly the production of metallic calcium is now on a sound commercial basis. Calcium is an ideal scavenger and there is every indication that the calcium industry has come to stay, war or no war. Calcium, like aluminum, is made electrochemically in a fused salt bath.

PURE TUNGSTEN FROM A FUSED SALT BATH

To meet the increased demand for tungsten, a key metal among the strategic group, Colin G. Fink and C. C. Ma investigated the recovery of tungsten from low-grade ores rejected by the ferro-tungsten manufacturers. The investigators found that pure, crystalline tungsten metal can be produced from any type or grade of tungsten ore by electrolyzing the ore in a fused borate or phosphate bath.

ELECTROPLATING

In the electroplating field, electrotin plate continued to occupy the main place of interest. Decided improvements in process and product are recorded. It appears very definite that the hot-dip tin process, so wasteful of precious tin, will not be resurrected after the war.

In view of the availability of rather large stocks of silver, electroplaters devoted much time and attention to the electrodeposition of silver on steel. Contrary to general belief and conviction, it was found that a corrosion-resistant coating applied to steel and other metals preliminary to electrodepositing the silver produced excellent adhesion of the silver. Thus, for example, it was demonstrated that the familiar phosphate coating applied to steel, followed by an electrodeposit of silver, resulted in perfect adhesion of the silver plate. The procedure is so contrary to old standard practice that various theories have been offered to account for these unusual results. One such theory bases the good adhesion on the elimination of local galvanic couples by the phosphate or analogous treatment.

The ever increasing use of various plastics in place of brass for hardware and other fittings attracted renewed attention to brass-plated sheet steel articles (as a substitute for solid brass). In this way a competitive cost is developed. A new favorable factor that has developed recently is the brass plating of strip steel, fabricating the articles after plating, instead of before plating as has been the custom heretofore.

E. W. Ferm and R. O. Hull have invented a new anode for brass plating; to overcome the tendency of brass anodes to dissolve too fast during electrolysis, a per cent or so of calcium or magnesium is added to the molten brass just before casting the anodes.

On account of the scarcity of nickel, chromium, and other white metals a number of laboratories carried out intensive research on iron plating. It is interesting to record that iron and steel with a good adherent surface coating of electrodeposited iron is decidedly more resistant to corrosion than the bare iron or steel. This improvement is attributed to the elimination of point to point galvanic couples by the plating process.

In galvanizing there has been a gradual but definite transition from hot-dip galvanizing of individual steel sheets to electrogalvanizing strip steel. How to produce electrogalvanized corrugated sheet steel strip is still an unsolved problem. Electrogalvanizing of steel wire in place of passing the wire through a molten zinc bath is now a well seasoned process in a half dozen American plants.

Indium has been accepted as an indispensable plate on bearings. It is highly resistant to corrosion by lubricating oils. In this connection tests, carried out by J. M. Freund, H. B. Linford, and P. W. Schutz on the corrosion of lead-indium diffusion alloys, in particular the chemical corrosion of lead and lead indium diffusion alloys by lubricating oil at 170° to 180° C. showed that no protective film is formed in the corrosion of lead. It was found that indium inhibits the attack on lead, that completeness of immersion is important, and that lead sulfide is one of the products of corrosion.

C. F. Smart recommends the following bath for plating indium on bearings: 4 oz./gal. indium; dextrose 2; caustic soda 9. The bath to be operated at 50° C. at 6 volts and 80 amperes per square foot of cathode surface.

In the protection of metal parts for various munitions, lead plating has again come to the fore. The lead fluoborate bath has been most practical and satisfactory. However, the lead sulfamate bath is increasing in popularity.

C. S. Oldach and Ralph Landau have worked out a method of electrolytically refining the impure cobalt metal of commerce (98.4% to 98.7% Co.). The bath used is a modified Kalmus bath with a hydrogen ion concentration maintained at 4.5 to 5.0. The refined metal analyzes 99.76% Co. Cobalt is used in making the stellite, Co-Cr-W, alloys for high speed cutters and millers.

In view of the increasingly rapid growth of powder metallurgy, means other than mechanical for obtaining metal powders have been devised. Of special interest among these are the electrolytic methods based largely on the use of very high current densities or the addition of cations such as potassium or magnesium, the codeposition of which interrupts the metal crystal growth, resulting in an extremely finely divided powder.

ELECTRIC DISCHARGE THROUGH CASES

Of ever increasing interest and importance is the production of chemical substances in the electric discharge tube. Simple organic gases have been converted into valuable products, among others gasoline suitable for automobiles. George Glockler and C. A. Hollingsworth took mixtures of acetylene and ethylene and, upon submitting them to the silent and semi-corona discharge, obtained a solid acetylene polymer which was insoluble in all solvents tried.

H. O. McMahon and M. J. Marshall found that in the high frequency discharge the dissociation of a polyatomic gas mixed with argon increases with decrease in its concentration in the mixture.

PERIODICAL PUBLICATIONS

American Journal of Physics
175 Fifth Ave., New York City.

American Physics Teacher
American Institute of Physics, 175 Fifth Ave., New York City.

Chemical and Engineering News
1155 16th St., N.W., Washington, D. C.

Chemical and Metallurgical Engineering
330 West 42nd Street, New York City.

Chemical Engineering Catalogue
330 West 42nd Street, New York City.

Chemical Industries
522 Fifth Ave., New York City.

Chemical Reviews
Mount Royal and Guilford Aves., Baltimore, Md.

Chemist, The
233 Broadway, New York City.

Industrial and Engineering Chemistry
330 West 42nd Street, New York City.

Journal of the American Chemical Society
12 Oxford Street, Cambridge, Mass.

Journal of Chemical Education
11 West 42nd Street, New York City.

Journal of Chemical Physics
175 Fifth Ave., New York City.

Journal of Mathematics and Physics
Massachusetts Institute of Technology, Cambridge, Mass.

Journal of Organic Chemistry
Mount Royal and Guilford Aves., Baltimore, Md.

Journal of Physical Chemistry
Mount Royal and Guilford Aves., Baltimore, Md.

Physical Review
175 Fifth Ave., New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

American Association of Cereal Chemists, 4049 Pennsylvania Ave., Kansas City, Mo.

American Association of Physics Teachers, University of Pennsylvania, Philadelphia.

American Ceramic Society, 2525 N. High St., Columbus, O.

American Chemical Society, Inc., 1155 16th St., N.W., Washington, D. C.

American Electrochemical Society, Broadway and 117th St., New York City.

American Institute of Chemical Engineers, 50 E. 41st St., New York City.

American Institute of Physics, 175 Fifth Ave., New York City.

American Leather Chemists Association, 143 W. 20th Street, New York City.

American Microscopical Society, Kansas State College, Manhattan, Kan.

American Oil Chemists Society, 509 Poydras St., New Orleans, La.

American Physical Society, Columbia University, New York City.

American Society of Biological Chemists, U. S. Bureau of Agricultural and Industrial Chemistry, Washington, D. C.

American Society of Brewing Chemists, Inc., 64 East Lake St., Chicago.

Association of Official Agricultural Chemists, Box 540 Benjamin Franklin Station, Washington, D. C.

Copper and Brass Research Assn., 420 Lexington Ave., New York City.

National Research Council, 2101 Constitution Ave., Washington, D. C.

Society of Chemical Industry, 305 Washington St., Brooklyn, New York City.

Synthetic Organic Chemical Manufacturers Assn., 260 W. Broadway, New York City.

DIVISION XXII

BIOLOGY

ORGANIC EVOLUTION AND GENETICS

By Myron Gordon
New York Zoological Society and Hunter College

EVOLUTION: THE MODERN SYNTHESIS

The outstanding event in 1943 in our advancing knowledge of evolutionary procedure was the publication of Julian Huxley's new book: *Evolution, the Modern Synthesis.* Huxley has painstakingly compiled and appraised the many recent biological discoveries. His book is a vast library of naturalistic material which is exciting in itself and which is important for the broad concepts which are drawn from it. While it is not written nor assembled in the spirit of a textbook, it contains the essentials for a modern college course in evolution. The vast scope of the book may be appreciated by the fact that it takes 34 pages to list the titles of the scientific papers and books to which he refers for data and comment.

In many persons' minds, Darwinism is synonymous with evolution, but it is essential to distinguish between the two different doctrines which Darwin popularized: the doctrine of Evolution and that of Natural Selection. Many biologists have repeatedly insisted that it is possible, indeed logical, to hold the first doctrine, but not the second.

Criticism of Darwinism has come from biologists of widely differing fields such as systematists, physiologists, geneticists, embryologists, immunologists, blood group specialists, pathologists, endocrinologists, and so on. Among the systematists, the interpretation of the methods of evolution seem to be almost as numerous as the many groups of animals and plants studied. The modern biologists have an advantage over those of the past generation, for there is no longer any thrill in attacking either theological or biological orthodoxy. As J. B. S. Haldane once put it, eminent theologians have accepted Evolution and eminent biologists have denied Natural Selection.

Julian Huxley begins his story with Darwin's patient collection of a vast array of facts and with the general principles of evolution which Darwin drew from the data. The first series of facts to which Darwin called attention is the tendency of all organisms to increase in a geometric ratio. The second series of facts is that, in spite of this tendency to progressive increase, the numbers of a given species actually remain more or less constant. From these two series of facts Darwin deduced the struggle for existence. The third series of facts to which Darwin pointed is that all organisms vary appreciably. From the third fact and from his first deduction, Darwin made his final deduction of Natural Selection. As Huxley expresses it, since there is a struggle for existence among individuals, and since individuals are not all alike, some of the variations among them will be advantageous in the struggle for survival, others unfavorable. Further, since a great deal of variation is transmitted by heredity, these effects of differential survival will, in large measure, accumulate from generation to generation.

Much, then, depends upon what is meant by inheritable variations. On this subject, according to Huxley, Darwin's views differ widely from the interpretations now held. Darwin was inclined to the principle of "use and disuse" generally accredited to Lamarck, but as Conway Zirkle recently pointed out, the Lamarckian hypothesis is really pre-Lamarckian, indeed it goes back 2,000 years to Hippocrates. The fallacies of the theory are reviewed. In passing he takes to task Bernard Shaw for his "Back to Methuselah," and Samuel Butler, too, for their wishful thinking and acceptance of Lamarckianism as a scientific fact.

It is here where the role of genes in evolution comes in. It is the role of genes and chromosomes, the gene-carriers, that Julian Huxley deservedly devotes much attention, as well as to the forces of selection which act upon them. Variations may be initiated by a single gene difference, a point mutation, or a combination of genic alterations, or by changed spatial relations between genes, or by masses of genes in large portions of the chromosomes. Huxley acknowledges the tremendous job done by American geneticists in working out the many fine details of the mechanisms of Mendelian inheritance. Indeed Huxley's book is dedicated to Professor T. H. Morgan, Nobel Prize winner, and leader of that pioneering school of gene analysists which includes Muller, Sturtevant, Bridges, Dobzhansky, Schultz, Rhoades, Beadle, and others. Before leaving the subject of genes, Huxley emphasizes that evolution is a joint product of mutation, recombination of genes, and selection.

The wide scope of Huxley's book may be appreciated by the fact that these introductory remarks are covered in just a few chapters. Huxley proceeds to a discussion of the evolution of genetic systems and at this point devotes particular attention to species hybrids. He points out, for instance, that new species have been created by plant breeders, plants that are the result of hybridization, plants that are capable of reproduction between themselves but which are sterile when crossed back to the original species.

The book contains a discussion of geographical and ecological forces in species formation as expressed in the many types of isolations between two populations. He also considers the time element as well as the spatial relations between populations. The special theories developed by biometricians concerning mutation rate, selection pressure and other factors bearing upon evolution, chiefly the work of Wright, Haldane, and Fisher, are given in some detail and evaluated. It would have been interesting to have in Huxley's book his views on the theories concerning the origin of life itself, a subject which recently has been revived and discussed by Charles M. Breder.

Huxley's chapter on evolutionary trends has a wide sweep and is embellished with numerous examples indicating that most genes affect the rate; the time of onset, the duration, and the type of developmental processes will provide the raw material for trends involving progressive alteration in one or other of these factors of development. He refers to evolutionary progress, in his last chapter, as an improvement in efficiency of living in general such as that attained by a greater control over the environment or by a greater independence of it. The entire array of animal forms is surveyed from this angle for the various types of evolutionary progress attained, and man's uniqueness is established. Huxley agrees that the proper study of mankind is man, and man comes in for his due share of discussion. Huxley's book was reviewed by Myron Gordon of the New York Zoological Society and Hunter College of the City of New York in *The New York Times Book Review* (July 25, 1943).

THE RACES OF MANKIND

In a significant step towards the clarification of what is meant by the term race with reference to mankind, Doctors Ruth Benedict and Gene Weltfish of the Columbia University Department of Anthropology, cooperating with the geneticist, L. C. Dunn, and other members of the Columbia faculty, have written a lucid and popular account of what unbiased scientists have discovered to be the truth on this important subject. They point out that, while races of mankind differ in some features, they are very much alike in terms of color, height, shape of head, type of blood.

They present a map of over half the world to show that the primary races of mankind—the Caucasian, the Mongoloid and the Negroid—each occupied a relatively small area, while the rest is now occupied by different degrees of mixed types. This distinction is chiefly based upon color and other features, but, except for small, isolated populations, there hardly exists, today, members of pure races owing to the vast migrations and invasions and to subsequent racial mixtures. They debunk the idea of racial superiority in customs or intelligence or character. Civilization is not caused by race, for history shows that various races had their high levels of culture, and not all were white.

On the subject of "blood relations" they write: "For ages men have spoken of 'blood relations' as if different people had different blood. Modern science has revealed this to be pure superstition. All human blood is the same, whether it is the blood of an Eskimo or a Frenchman, of the 'purest' German 'Aryan' or an African pygmy—except for one medically important difference. This medical difference was discovered when doctors first began to use blood transfusion in order to save life. In early attempts at transfusion it was discovered that 'agglutinations' or clumping together of the red cells sometimes occurred and caused death. Gradually investigators learned that there are four types of blood called O, A, B, and AB and that, although blood typed O can be mixed successfully with the other three, none of these can be mixed with one another without clumping.

"These four types of blood are inherited by each child from its forebears. But whites, Negroes, Mongols, and all races of man have all these blood types. The color of their skin does not tell at all which blood type they have. You and an Australian bushman may have the same blood type. Because you inherit your bodily traits from your many different ancestors, you may have a different blood type from your mother or your father, or your brothers and sisters. You may have eyes like your mother's, teeth and hair like your father's, feet like your grandfather's, and a blood type like your great-grandmother's."

SEWALL WRIGHT ON EVOLUTION

Sewall Wright continued his significant analysis of evolutionary methods in three papers published in 1943. Two of them were published in *Genetics* 28:114-138 and 28:139-156, 1943. His paper on "Isolation by Distance" takes up the subject of the effects by distance in a continuous population, and it is worked out on the hypothesis that the parents of any individual may be treated as if they were taken at random from a group of a certain size, N. These effects are compared with those of subdivision into partially isolated islands. It is shown that exclusive short range dispersal, with N less than 100 in the case of area continuity, leads to considerable differentiation, not only of small subdivisions but also of large ones. Values of N greater than 10,000 give results substantially equivalent to panmixia throughout a range of any conceivable size. With linear continuity only, there is enormously more differentiation than under area continuity. There is somewhat more differentiation under uniparental than under biparental reproduction. Recurrent mutation, long range dispersal, and selection uniformly favoring one allele, are factors that restrict greatly the amount of random differentiation of large (but not small) subdivisions of a continuous population. If different regions are subject to different conditions of selection, amounts of both adaptive and non-adaptive differentiation depend on the smallness of the proportion of replacement by a random sample of the whole population in the case of islands or of the size of the parental group in the case of a continuous distribution. If these are sufficiently large there is no appreciable differentiation of either sort; if sufficiently small there is predominantly adaptive differentiation of large subdivisions, but predominantly non-adaptive differentiation of small subdivisions superimposed on this. Even under uniform environmental conditions, random differentiation tends to create adaptive trends in different regions and a process of intergroup selection based on gene systems as wholes.

In the second paper Wright presented "An analysis of local variability of flower color in Linanthus parryae." Studying the distributional data supplied by Dobzhansky and Epling, Wright concluded that the differentiation among the smallest subdivisions can be accounted for if the effective size of the population from which the parents of an individual are drawn is about 15, whether blue is dominant recessive or owing to multiple factors and a threshold, assuming cross fertilization. If exclusive self fertilization, adjacent plants must be drawn from a group of about 25 parents to give the same result. The amount of differentiation of larger subdivisions is somewhat greater than expected as a cumulative consequence of that of the smallest ones, under continuity of area and with negligible rates of long range dispersal and mutations and no selection. As the theoretical values should probably be reduced because of such factors, there is probably a counterbalancing influence of differential action of selection in different regions. This would not necessarily depend on differential environmental conditions; it could be a by-product of the development of genetic systems by the process of random differentiation.

In the third contribution made in collaboration with Th. Dobzhansky there is a further study on the genetical analysis of natural populations ("Dispersion rates in Drosophila pseudoobscura" published in *Genetics* 28:304-340). The experiments were designed to test the validity of a number of estimates in determining the breeding structure of wild populations. Among other factors, the population is determined, they say, by its effective size and the migration index. The latter constant measures the extent to which the population of a given territory is replaced in each generation by immigrants from the rest of the species or from a territory large enough to have all the genetic variants of a given class at their equilibrium frequencies. The value of migration index, in turn, is a function of the mobility of the organism.

DOBZHANSKY ON NATURAL POPULATIONS

In a further analysis of natural populations which is one of the most significant approaches in modern methods of the study of evolution, Dobzhansky dealt with the "Temporal changes in the composition of populations of Drosophila pseudoobscura" (*Genetics* 28:162-186, 1943). He concluded that the most probable view concerning the data he has accumulated is that the carriers of the different gene arrangements have different ecological optima, and, consequently, natural selection tends to modify the composition of the population in accordance with the environment prevailing at different times of the year. The small yearly fluctuations may be accounted for by the climatic variations between different years. It is, however, improbable that the adaptive value of a gene arrangement is detected by position effects on genes; more likely the different gene arrangements become associated with different genic variants in different localities. On the whole, the results of this investigation demonstrate a great plasticity of the species genotype which responds even to seasonal changes in the environment by alterations of the relative frequencies of its components.

EVOLUTION OF FARM ANIMALS

Farm animals, given the protection by man, have evolved rapidly into forms so different from their ancestral types as to merit study as to the methods and hereditary mechanisms which have been responsible for the transformation. Geneticists are giving more attention to this subject, and textbooks, like Laurence M. Winters' *An Introduction to Breeding Farm Animals,* provide the basic information for these studies. The author discusses both the science and the art of breeding. It is intended for the lay reader and for teachers having little or no background in genetics or physiology of reproduction. Winters has covered the history of livestock breeding, the importance of animal improvement, the biological, anatomical, and physiological foundations of reproduction; heredity and the principles which apply to breeding farm animals. Special attention is devoted to such important topics as selection, pure-breds, grading, inbreeding, crossbreeding, and artificial insemination. The topics bear upon the following animals: swine, sheep, cattle, horses, and poultry. The book consists of 250 pages and is published by John Wiley and Sons, Inc., N. Y.

CORRESPONDING GENES IN FROGS

John A. Moore of Barnard College crossed Rana pipiens, heterozygous for the burnsi gene with Rana pipiens from regions where this gene does not occur. He also crossed the stock with Rana palustris and Rana areolata. He found that the burnsi gene causes the suppression of the dorsal spotting, showing that each of the three species has one corresponding gene in common.

Leon J. Cole of the University of Wisconsin, in studying white spotting in the fox, has concluded from his survey of the records of fox breeders that the platinum silver color phase in silver foxes appears to have arisen independently by mutation in at least three instances in the United States and Canada. This has been an added contribution to our knowledge of the apparent increasing variability of animals under domestication (*American Naturalist* 74:289-321, 1943).

BLOOD RELATIONS IN PIGEONS

M. R. Irwin and R. W. Cumley of the University of Wisconsin studied, by immunological methods, the interrelationships of the cellular antigens of eleven species of pigeons of the genus Columba. The tests in all cases allowed the general conclusion that, for any pair of contrasted species, each contained antigens specific to itself, as well as others—probably a far greater proportion of the total—shared by both. Accumulated evidence from species crossed in several species of pigeons and doves makes practically certain the proposal that the species-specific and common antigens of the cells of a species are gene-determined. Hence, the authors declare, the interrelationships of the cellular antigens of these species are likewise those of the causative genes. The antigens specific to one species in comparison with another were usually shared, at least in part, with several other species. Also, for certain species in relation to others, it was found that a given species might share (a) a complex of cellular characteristics with one species; (b) the same complex or the same complex plus additional antigens with another species; (c) all the components of the second species plus others with a third and so on. Each of the species studied, in its relationships to the others, appeared definitely to be an entity. The cellular characters of each species interlock in intricate but somewhat dissimilar patterns with those of the others. The species-specific antigens appear to be produced by genes on a relatively small proportion of the chromosomes of the respective species rather than by genes scattered over most of the chromosomes. Complete details of these studies may be found in *Genetics* (28:9-28, 1943).

LLOYD ON THE ORIGIN OF THE CARNIVOROUS HABIT IN PLANTS

After a lifetime of research and teaching in botany and with a particular curiosity in the mechanism of the trap of Utricularia, an ubiquitous plant carnivore, Francis Ernest Lloyd, of McGill University, has summarized in a scholarly manner, in book form, *The Carnivorous Plants* (Chronica Botanica Company, Waltham, Mass., and G. E. Stechert, New York) our knowledge not only of the animal trapping devices developed by the bladderwort but those developed by all known plants having the carnivorous habit.

Lloyd states that over 450 species of plants have been identified as having the unusual property of attracting and doing away with minute animals. These are scattered in six plant families which in turn represent two major divisions with respect to their type of inflorescences. Reflecting upon this point, Lloyd comments: "This wide separation is a remarkable indication that the carnivorous habit has arisen among the higher plants at two points at the fewest, (as well as among the fungi), in the course of evolution." The author proceeds to compare the various types of traps to those devised by man which make interest and instructive comparisons. For instance, the pitcher plants are compared to pitfalls; others are built like lobster pots; while others are like snares, some of which are passive, having sticky discs, while others are active like nooses. Some plant traps have substances comparable to bird lime or sticky fly papers. The so-called active traps having a variety of ingenious gadgets are likened to the steel trap and elaborate mouse traps complete with bait and trigger mechanisms.

In addition to the above, plants have perfected their traps by means of lures, some in the form of suitable odors, violets for example in one, honey in another, nectar in still a third; or attractive colors or points of light. There are also, with few exceptions, means for digesting the prey when caught; enzymes and acids are excreted. When these, together with the captured prey, are accumulated in some sort of a receptacle, something much like the animal stomach results. Involved in all this there are special structures—hairs, glands, specialized stomata, waxy excretions, and tentacles. The plants which Lloyd discusses have traps which are well developed organs for the capture and digestion of animal prey; "thus" says Lloyd, "turning the tables on animals, which directly or indirectly are herbivorous."

With respect to the origin and evolution of the carnivorous plants from fossil records, the evidence is meagre, for these plants have seldom been preserved. Lloyd confesses to our still imperfect knowledge of the specific evolution of the highly specialized organs of capture. He has this to say however in general terms: "One can not but wonder at the astonishing variety of trap structure. It is not less astonishing that there is no evidence that one form of trap is superior to another in action. The fact of variety is one with the same phenomenon observed when we survey attentively some other unit of structure. It seems as though nature, or to deify her fruitfulness, Nature, is not nor ever has been content to make some one thing, however satisfactory, and to let it go at that. She must show that she is not bound to the details of a pattern that, in this case, she can make a whole shelf full of different kinds of traps, as if to puzzle you to pick the best."

In the appendix, (in a position which Lloyd considers obscurity) he asks leave to present two models in the form of mouse traps, designed *ad hoc* to illustrate the way in which the trap of Utricularia has been and, at present is, thought to work. The first seems to like the conventional type, an idea held by Cohn and Darwin and others. The second, the modern view, is a fantastically complicated type filled with levers, gears, triggers, motors, pulleys, and other interdepending devices. Of this Lloyd comments: "A captious reader may find difficulty in accepting the analogy as complete. I can only say that he would be right; but at least a purpose is served, to indicate that the Utricularia is a pretty complex bit of mechanism."

GENETICS AND ETHNOBIOLOGY

An interesting application of genetic principles to a problem in ethnobiology was used by A. T. Erwin of Iowa State College in determining the probable origin of sweet corn. In his paper entitled "Anent the origin of sweet corn" which appeared in the Iowa State College *Journal of Science* (16:481-485, 1942), the author indicated that there were two divergent opinions regarding the origin of sweet corn: that it is a distinct species and a pre-Columbian food plant of the North American Indian and, second, that it is mutation of field corn, of relatively recent origin. The author sought four sources of information as to its origin: archeology, Indian legends, genetic studies, and early American literature. The archeological evidence, Erwin says, and also that of early literature, are negative. Genetic studies have proven sweet corn to be a mutation of field corn of post-Columbian origin, and mutants which met with favor among the settlers appeared in New England early in the 19th century.

In a similar connection, but in far greater detail, Paul C. Mangelsdorf and James W. Cameron wrote on the subject of "Western Guatemala a secondary center of origin of cultivated maize varieties." This appeared in the *Botanical Museum Leaflets* of Harvard University (10:217-252, 1942). They state that the number of (1-16) chromosome knobs in each of 162 varieties of maize from 38 localities in western Guatemala is shown to be associated with morphological characters in both "Andean" (low-knob) and "Tripsacoid" (high-knob) types. Also, greatest diversity of the varieties was found in a small area of less than 200 square miles where low-knob varieties, high-knob varieties, and a profusion of both Tripsacum and teosinte occur. This, they claim, supports the "tripartite hypothesis of the origin of cultivated maize varieties that a "South American variety of maize hybridized with a species of Tripsacum to produce the new genus Euchlaena (teosinte) and new varieties of maize exhibiting Tripsacum structure." From this, they conclude, it follows that western Guatemala is a secondary center of origin of cultivated maize varieties rather than a primary source.

HUMAN GENETICS

H. H. Newman and Iva C. Gardner in a paper entitled "Types and Frequencies of Quadruplets," published in the *Journal of Heredity* (33:311-314), have stated that only seven surviving whole set of quadruplets have been currently found in the United States of America. Of these, six sets have been studied and analyzed, the seventh being still too young for study. Of those studied one set is diagnosed as a 1-egg set; two sets as 2-egg sets; one set as a 3-egg set, and two sets as of 4-egg quads. The six cases thus far studied are all different. The question of the apparent preponderance of the same-sexed sets of quads is explained as being well within the range of statistical expectancy. When the sex ratios of the new sets are added to those already reported, there is no preponderance of males as was formerly reported to be the case.

BLOOD GROUPS

P. B. Candela wrote in *Human Biology* (14:413-443, 1942) of an attempt made to decide when and by whom Group B was brought into Europe. He correlated the historical and ethnical data regarding five categories of populations with their respective proportions of Group B. The five categories are: 1, The modern representatives and descendants of pure mongoloid invaders of the 5th, 6th, and 13th centuries; 2, the descendants of mixed Turko-Tartar-Mongols who accompanied the Mongols, and who effected most of the actual occupation of the invaded areas; 3, Europeans living in the closest contact with the peoples of the first two categories; 4, Europeans, geographically remote from the zone of contact; 5, Isolated descendants of the refugees from the Asiatic invaders. The bracycephalic element of the first category is seen to have the highest proportions of Group B in all Asia, and the proportions are progressively smaller in each of the succeeding categories. Further, the smaller subgroups, and even the individual tribes within some subgroups exhibit the close relationship between the degree of mongolization and the amount of B. These findings, Candela states, appear to justify the conclusion that group B was brought into Europe by the brachycephalic armies, between the 5th and the 15th centuries. The fact that the part-mongol elements in those armies, possessing varying amounts of B, were nevertheless all brachycephalic, may help to explain the lack of correlation between head form and blood groups among the peoples of eastern Europe. Evidence of linkage between genes for brachycephaly and blood group B would be helpful in this conclusion.

HUMAN GENETIC TREASURES

In the book *Family Treasures* by David D. Whitney of the University of Nebraska (Jaques Cattell Press, Lancaster, Pa.: 299 pages and 234 figures, 1942) an attempt is made to show that many common normal traits run in families and may have a genetic basis. Marked abnormalities, usually treated in other books on human genetics, are here not included. About 200 traits are described and illustrated by means of photographs. They include variations in the form, structure, arrangement and color of the hair and the size, shape and color of the eyes; divergences in the mouth, teeth, lips, and tongue; peculiarities of the ears; forms of noses, cheeks, chins and jaws; types of fingers, toes, hands and feet; and bodily form; the author suggests the probable kinds of heredity responsible for the various characteristics.

THE MARKS OF INHERITANCE

There are several chapters in the book published this year, *Finger Prints, Palms and Soles, An Introduction to Dermatoglyphics,* by Professors Harold Cummins and Charles Midlo of Tulane University (The Blakiston Co., Philadelphia, i-xi and 1-309, 1943) which have advanced our knowledge of human inheritance. In this book the authors have provided the history, the morphology, the method of printing of finger, palm, toe, and sole markings. In the section devoted to the biology of these markings they have reviewed the methods of classification and identification, the comparative anatomy of dermatoglyphs with respect to man's poorer relations, the primates; they include the embryology and symmetry of these significant structures. Special chapters are devoted to inheritance, twin diagnosis, questioned paternity, racial variation, and constitution of individuals in terms of blood groupings, sex, handedness, diseases, criminality and degeneracy, and general character and temperament.

The authors state that abundant evidence now is at hand to prove that some characteristics of finger prints and other dermatoglyphic areas are inherited. They point out that genetic factors have a large share in determining variations of dermatoglyphics, as instanced especially by gradations of similarity observed among individuals having different degrees of relationships. The closest possible genetic relationship is that of monozygotic twins. In their dermatoglyphics, as in other features, the members of monozygotic twin pairs typically present similarities of higher degree than those found in any other comparisons of individuals. A progressive reduction in degree of similarity is demonstrable in comparisons involving lessening relationships. Thus paired siblings and the members of fraternal twin pairs are rarely as similar as the members of monozygotic twin pairs. Parent and child on the average show less resemblance than siblings; unrelated individuals of the same race show still less, while maximum differences are found in comparing persons of different races. The reader is warned, however, that dermatoglyphs do not provide a complete index for racial differences.

HOMOLOGY AND ANALOGY

Alan Boyden of Rutgers University has reviewed the present-day concept in comparative zoology in "Homology and Analogy: A Century After the Definitions of 'Homologue' and 'Analogue' of Richard Owen." In a summary of his paper which appeared in the *Quarterly Review of Biology* (18:228-241, 1943), he said that "The terms homology and analogy, as used at present, lack that precision and clarity of meaning which is essential to their effective application in comparative zoology. Owen, 100 years ago, used these terms effectively, and it is recommended that we adopt Owen's meanings without further delay. Homology is a genetic phenomenon, and both serial and special homology are based upon mechanisms which involve the interation of genes and cytoplasm, but serial homology or homotypy (Owen's meaning) has no direct bearing upon problems of genetic relationship, whereas special homology bears directly upon the analysis of racial descent. The genetic mechanism of special homology is such as to ensure that both the relative position and essential structure of complex organs will be transmitted for many successive generations; hence modern genetic knowledge affirms the validity of these criteria of special homology. There remains for the future the task of developing some objective endpoint for the condition of special homology which can truly indicate the more remote genetic relationships."

ENTOMOLOGY

By Roger B. Friend
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INSECTICIDES

The problem of providing an adequate supply of insecticides for agricultural use and the protection of the armed forces and civilian population remains in some respects acute. The office of the War Food Administrator has revised the order restricting the uses of rotenone, permitting its use on a larger number of food crops and increasing the rotenone content of dusts from 0.5 per cent to 0.75 per cent for commercially produced agricultural crops, although for home garden use the content remains at 0.5 per cent. Efforts to increase the production of cubé in South America are meeting with success, and during the coming year importations may appreciably exceed those of 1943.

Roark has published an extensive review of the uses of rotenone as an insecticide. The effect of diluents on the toxicity of rotenone in dusts, an important factor in determining effective rotenone concentrations, has been discussed by Turner. The production of nicotine, a widely used contact insecticide, has increased about 75 per cent since 1942, and this will be maintained for another year at least. The insecticidal uses of this material have been discussed by McIndoo.

The pyrethrum supply is being used entirely by the armed forces, mainly for aerosols and sprays. Production in Kenya Colony, chief source of supply, may fall under 10,000,000 pounds. The normal consumption in the United States before 1942 was 13,000,000 pounds. Household and stock sprays having an oil base now contain synthetic organic toxicants, chiefly thiocyanates, instead of pyrethrum. The supply of insecticides containing arsenic and fluorine is adequate, and the production of cryolite, the efficiency of which as an alternate for arsenicals and rotenone has been studied by many investigators, has increased. Roark has reviewed the insecticide situation in relation to critical materials.

FUMIGANTS FOR GRAIN PROTECTION

Much of the investigations of fumigants has been devoted to methods of protecting stored grain from pests, a very important factor in food production, and to an expansion of the uses of methyl bromide. The toxicity of nitroparaffins, a group of compounds to which O'Kane and Smith called attention in 1941, to grain pests has been studied by several entomologists, and the results indicate these materials are promising. Cotton and Young secured significant results in the experimental fumigation of grain with acrylonitrile, trichloroacetonitrile, and organic bromides. The uses of methyl bromide, which is extensively employed in the fumigation of nursery stock and other products and materials, continue to increase. It has been found effective against such diverse pests as the sweet potato weevil, larvae of the cigarette beetle, scale insects on camellias and azaleas, larvae of the white-fringed beetle in soil, etc. Richardson *et al.* have reported the results attained in fumigating greenhouses and in vault fumigation. Chisholm and Kobtitsky have investigated its absorption by soils.

"GESAROL"

In the search for new and promising insecticides the most outstanding development has been the investigations of the usefulness of dichlorodiphenyl-trichloroethane, commercially known as "Gesarol." This material has had limited use in Europe during the past few years, and Ziemet has recently published a translation of a paper by Weisman on its efficiency in controlling stable flies. Most of the recently acquired information in this country is still unpublished, but the chemical looks very promising in the control of not only flies and mosquitoes but also certain agricultural pests, and it is the basis for a new army louse powder. It is claimed to be non-toxic to man. The present supply is going entirely to the armed forces.

OTHER INSECTICIDE STUDIES

The seeds of the yam bean, a tropical plant widely cultivated for its tuberous roots which are used for food, contain an insecticidal material which may become of some importance. Its toxicity to insects has been discussed by Hansberry and Lee.

There is a great interest at the present time in plants as a source of insecticides and rodenticides. The information on this subject to date has been summarized by Sievers and Bigbee and by Hermann. Many of these plants are of foreign and tropical origin.

Richards has made an interesting study of the relation of penetration of oil solvents into the nervous system of insects from the tracheae. He suggests that the toxicity of oils to insects may be tied up with the lipid sheaths of the nerve fibers.

PROTECTION OF TROOPS

The armed forces of the nation are engaged in combat in some of the most pestiferous parts of the world and are exposed to noxious insects and other arthropods in military areas in this country. Their protection against mosquitoes and lice in particular is being intensively studied. In some parts of the tropics a large per cent of the troops may contract malaria if exposed overnight. Matheson has reviewed the problem of arthropods as vectors of human diseases, Annand has discussed the work of entomologists in this field, and Williams, Bradley, Coggeshall, Hardenbergh, Stage, and Bishopp have discussed several aspects of the mosquito control problem. The entomological aspects of troop mobilization have been discussed by King. The mosquito problem around permanent quarters can often be handled by drainage, but this is impossible in combat areas where sprays against adults, repellents, and larvicides must be relied on. Repellents which keep the troops free of mosquitoes for several hours after application have been developed, and aerosol "bombs" are in wide use for freeing tents and other quarters of the pests. Better larvicides are now also available.

For the control of body lice, a new louse powder having "Gesarol" as a base has been developed, and improved techniques for fumigating clothing and bedding are in use. Latta and Yeomans have described a demountable plywood vault, employing methyl bromide as a fumigant, for use at military bases, and the method of treating the equipment of the individual soldier with methyl bromide contained in a glass ampule in a tight bag.

PROTECTION OF GRAIN CROPS

The protection of crops and livestock from insect pests has received an unusual amount of attention, from the standpoint of both securing pest control in practice and improving present methods. Much of this has been mentioned above in relation to insecticides. The European corn borer has spread into Iowa, where it infests at least 19 eastern counties, and Missouri, and its control continues to be the object of much investigation. This involves treatment with insecticides, host resistance to the borer, and the colonization of parasites in the newly infested regions. The general level of corn borer abundance in 1943 was the highest on record in the United States. The corn ear worm is an omnivorous pest of many crops and has recently become a very serious pest of lima beans in parts of New Jersey, according to Pepper, preferring this crop to tomatoes. It has also caused some injury to tobacco in South Carolina (Allen and Pollard). According to Ditman and Wilcox, the use of cryolite has given adequate control on certain truck crops. The efficiency of dichloroethyl ether and styrene bromide compared to pyrethrins for control on corn has been studied in the East by Barber and in California. Both appear promising. In Texas, as reported by Fletcher and Thomas, and Virginia, as reported by Barber, natural factors have been found to have a significant effect on the mortality of eggs and young larvae on cotton and corn respectively.

CONTROL OF COTTON PESTS

The control of cotton pests is involved, as improper applications of calcium arsenate may cause an increase in the aphid population, and recent investigations by Ewing and Ivy show this in turn may increase the bollworm (corn ear worm) infestation. Aphid infestations may cause serious reductions in the yield of cotton according to Ewing, who has found cryolite to be less conductive to an increase in the aphid population than calcium arsenate. The increase of aphids following applications of calcium arsenate have been shown by McGarr to be favored by the use of nitrogenous fertilizers. The addition of nicotine to the calcium arsenate dust appears to bring the aphids under control according to McGarr and Henry.

TOMATOES AND LEGUMES

In California Baily and Kieffer report that the tomato russet mite, which is possibly a native of Australia and has been in California since 1940, has become a serious pest of red fruiting tomatoes.

In Wisconsin Chamberlin, who has studied white grubs for a number of years, found that the relative scarcity of grubs in fields planted to legumes was due to soil and root conditions deleterious to larvae.

FRUIT INSECT CONTROL

In the field of fruit insect control, the perennial codling moth problem is prominent. Much of the work with this pest centers around insecticides and spray schedules. Steiner *et al.* consider nicotine-bentonite sprays as effective as lead arsenate, and Hansberry found nicotine cuprocyanide at 0.5 pounds per 100 gallons superior to lead arsenate at 3 pounds per 100 gallons. Steiner and Arnold show that the toxicity of insecticides is increased under conditions of high humidity. Summerland and Steiner have investigated the oviposition of the moths and the fate of eggs on untreated trees. Only 25 to 37 per cent of the observed eggs hatched. In Arkansas Isely found that only late fall varieties of apples presented a serious codling moth problem and that early varieties, if isolated, are easy to protect.

A European sawfly pest of apples new to this country, *Hoplocampa testudinea,* has been found on Long Island by Pyenson.

Comstock's mealybug, which has become a serious pest of apples in parts of eastern United States in recent years, has been found to be markedly affected by a fungous disease in Virginia, 40 to 50 per cent of the brood being destroyed in old infestations. The disease is favored by warm humid weather and a heavy infestation.

In California the control of scales on citrus is a subject of continuous study. Yust and others have studied strains of red scale resistant to fumigation with HCN and the inheritance of this resistance. Lindgren and Dickinson find that the resistance of red scale to oil sprays is not similar to that to HCN. The satisfactory control by spraying plus fumigation is due to the additive and complementary effect. Quayle's experiments do not support the theory that the longer period of spiracle closure in one strain may account for a difference in susceptibility to HCN. According to Yust *et al.* many factors affect the results of fumigation of lemon fruits for yellow scale control, but not in the same way they affect the same treatment for red scale. Smith has clarified the relation of different species of Aonidella scales to the establishment of the parasite *Comperiella bifasciata.* De Bach, in an interesting study of the feeding of the adults of the parasite *Metaphycus helvolus* on its host, the black scale, has shown that only 20 to 25 per cent of the hosts killed are so affected by actual parasitism, the rest being killed by the feeding activities of the parasite.

SPRUCE SAWFLY

The status of the spruce sawfly, which up to recent years has killed large quantities of spruce in the United States and Canada, has been reviewed by Balch. The infestation is still declining due to the effects of a disease of the larvae. In central Gaspé 77 per cent of the white spruce and 48 per cent of the black spruce is dead.

PROTECTION AGAINST IMPORTATION OF PESTS

The war has placed a heavy burden on the plant quarantine service which has the responsibility of keeping foreign insect pests out of the country. Not only does the convoy system increase the work of ship inspection, but the tremendous increase in airplane transportation and the great quantities of gift packages sent home by soldiers abroad add to the difficulties. Such pests as the Mediterranean fruit fly and the pink bollworm are frequently intercepted, and other noxious insects are likely to enter the country at any time.

GENERAL ENTOMOLOGY AND TAXONOMY PUBLICATIONS

A number of interesting papers and books in the fields of general entomology and taxonomy were published in 1943. A list of the more extensive follows.

Popular.—H. B. Kane, *The Tale of the Promethea Moth* (A. Knopf); C. H. Matschat, *American Butterflies and Moths* (R. Freund); Anthony Standen, *Insect Invaders* (Houghton, Mifflin); Edwin Way Teale, *Near Horizons. The Story of an Insect Garden* (Dodd, Mead).

General.—I. J. Cantrall, *The Ecology of the Orthoptera and Dermaptera of the George Reserve, Michigan* (Misc. Publ., Mus. Zool., Univ. Mich., 54); Carl Kester Dorsey, *The Musculature of the Labrum, Labium and Pharyngeal Region of Adult and Immature Coleoptera* (Smithsonian Misc. Coll., Vol. 103, No. 7); A. D. Imms, *Outlines of Entomology* (Dutton); S. F. Light, "The Determination of Castes of Social Insects" (*Quart. Rev. Biol., 18:* 46-63); E. A. Steinhaus, *Catalogue of Bacteria Associated With Insects and Ticks* (Burgess Pub.); R. E. Snodgrass, *The Feeding Apparatus of Biting and Disease-Carrying Flies* (Smithsonian Misc. Coll., Vol. 104, No. 1); H. B. Weiss, "Color Perception in Insects" (*Jour. Econ. Ent., 36:* 1-17).

Special Groups.—M. W. Blackman, "Revision of the Genus Phloeosinus Chapuis in North America" *(Coleoptera: Scolytidae)* (*Proc. U. S. Nat. Mus., 92:* 397-474); Richard E. Blackwelder, "Monograph of the West Indian Beetles of the Family Staphylinidae" (*U. S. Nat. Mus., Bull. 182*); Adam G. Böving, "A Classification of Larvae and Adults of the Genus Phyllophaga" *(Coleoptera: Scarabaeidae)* (*Memoirs of the Ent. Soc. of Wash.,* No. 2); Hahn W. Capps, "Some American Geometrid Moths of the Sub-family Ennominae Heretofore Associated With or Closely Related to Ellopia Treitschke" (*Proc. U. S. Nat. Mus., 93:* 115-151); G. C. Crampton, C. H. Curran and C. P. Alexander, "The Diptera or True Flies of Connecticut. First Fascicle" (*Conn. Geol. and Nat. Hist. Survey, Bull. 64*); Donald G. Denning, "The Hydropsychidae of Minnesota" *(Trichoptera)* (*Ent. Amer. 23:* 101-171); Kathleen C. Doering and H. H. Darby, "A Contribution to the Taxonomy of the Genus Orgerius in America, North of Mexico" *(Fulgoridae, Homoptera)* (*Jour. Kans. Ent. Soc.,* 16: 64-98); H. E. Ewing, "The American Chiggers *(Larvae of the Trombiculinae)* of the Genus Acariscus, New Genus" (*Proc. Ent. Soc. Wash., 45:* 57-70); H. E. Ewing and Irving Fox, *The Fleas of North America* (U. S. Dept. Agr., Misc. Publ., No. 500); W. S. Fisher, *A Revision of the North American Species of Buprestid Beetles Belonging to the Tribe Chrysobothrini* (U. S. Dept. Agr., Misc. Publ., 470); R. M. Fox, *Catalogue of the Types in the L. W. Mengel Butterfly Collection* (Reading Mus. Sci. Publ., No. 4); T. H. Frison, *Studies of North American Plecoptera* (Ill. Nat. Hist. Survey); Mary E. Grinnell and Ina L. Hawes, "Bibliography on Lice and Man" (U. S. Dept. Agr. *Bibliographical Bull.* No. 1); D. E. Hardy, "A Revision of Nearctic Dorilaidae" *(Pipunculidae)* (*Univ. Kansas Sci. Bull. 39:* 1-231); F. M. Hull, "The Genus Mesogramma" (*Ent. Amer., 23:* 1-41); F. M. Hull, "The New World Species of the Genus Baccha" (*Ibid., 23:* 42-99).

BOTANY

By Howard J. Dittmer
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EVOLUTION

Much of the work in evolution in 1943 was concerned with the position of certain species. Stebbins described the concept of genetic homogeneity as an explanation for the existence and behavior of rare and endemic species. Huxley compiled a volume on evolution and its progress based on recent biological investigations.

Blakslee contributed a report on induced evolution in plants through chromosome changes. A number of ecological and systematic studies were made including the origin of American angiospermous floras by Camp, and description of organic polarity with ecological and physiological aspects by Wimpenny.

CYTOLOGY

Cytological studies this year were much concerned with chromosome behavior. Colchicine was used extensively by investigators to induce polyploidy in many different species. Resistance to colchicine of *Colchium* and *Chlamydcmonas* was reported by Cornman, while Levine and Gelber described the metaphase stage in cholchicinized onion root tips. The diffusion of growth-promoting gene products was presented by Sax.

Alterations in wavelengths of light were used by other investigators to induce changes in the chromosome complement. Swanson reported shortening of chromosomes when short wavelengths of light were administered to pollen tube chromosomes of *Tradescantia*. Chromosomal effects of low x-ray doses on the same species was described by Marinelli and his co-workers. Smith investigated the relation of polyploidy to heat and x-ray effects in the cereals.

Eigsti described a tetraploid condition in the genus *Polygonatum;* an amphidiploid *Lactuca* produced through non-reduction in F_1 hybrids was recorded by Thompson; the chromosome complement of *Pilea cadierci* was reported by Hamel; and the cytology of the autotetraploid rye was described by Chin.

This relatively new field of induced polyploidy in plants offers a new challenge to the cytologist, and from it he is discovering a new mechanism in cell behavior, the origin of varietal changes, and the ontogeny of new species.

GENETICS

Investigations in genetics during the year were largely cytological. Many attempts were successfully made to induce polyploidy and other chromosome aberrations to learn more of the effect of changes in the chromosome complement on the organism: Armstrong found diploid sugar beets more productive than either triploid or tetraploid; while autotetraploids reported by Giles for *Cuthbertia graminea* showed several desirable characteristics over normal diploids. Lindstrom described the genetic stability of tomato diploids and tetraploids derived from the haploid. Heteroauxin and the production of tetraploid shoots by the Callus methods in Brassica oleracea was described by Howard.

Other important papers were presented including Grave's report that in crosses between Japanese-American chestnuts the American species shows greater dominance but still apparently remains partially susceptible to *Endothia parasitica.* Gustafson reviewed the work on parthenocarpy, and Avery and Blakslee described mutation rate in *Datura* seed which had been buried 39 years. Geographical distribution of chromosomal types in *Datura* were reported by Bergner.

Recognition of the significance of genetics in biology is increasing many fold each year. New discoveries and new techniques now show the reason for plant and animal behavior and lessons the degree of speculation used to answer the questions of how, why, and where. Much has been done but much more will be learned in the intimate study of the chromosomes.

ECOLOGY

Successional studies, floristic notes; pollen analyses of peat bogs, drought effects, erosion, and carbon-nitrogen relationships of soils include some of the many and varied ecological studies made in 1943.

Sears mapped 111 bog profiles of eastern United States and Canada in his pollen studies; Potzger reported on the pollen found in Wisconsin bogs. Hansen contributed a pollen study of a sub-alpine bog in the Blue

Mountains of northeastern Oregon; and Wilson and Webster reported microfossil studies of three north central Wisconsin bogs.

Root investigations again played a prominent part in ecological work. Definite quantitative studies of subterranean plant members are being attempted by more investigators. Preston reports a close correlation, in his studies of dry weight and linear measurements of lodgepole pine trees, for roots and tops. Robertson described seasonal root development of sagebrush in relation to range reseeding. The nature and rate of development of the root system of *Convolvulus arvensis* was determined by Frazier; and Cook made a study of the roots of *Bromus inermis* in relation to drought resistance. Weaver and Albertson continued their survey of grasses, forbs, and underground plant parts at the end of the great drought; and Haynes described the effects of positive practices on root distribution.

Successional studies were again popular. The role of Bracken fern in Douglas fir regeneration was described by McCulloch. Tutin reported on the hydrosere and current concepts of the climax. Buell and Cain described the successional rate of southern white cedar in southeastern North Carolina. Hartog described plant ecology of bombed sites in London. Factors influencing the natural re-stocking of high altitude burns by coniferous trees in the central Rocky Mountains were studied by Stahelm. The effects of water provided material for many studies and publications. Niederhof and Dunford measured the effect of Crown openings in lodgepole pine forests on snow storage. Crown openings 16 to 17 feet in diameter provided optimum snow storage in stands about 20 feet tall. Mueller and Weaver noted the relative drought resistance of seedlings of dominant prairie grasses. Hursh and Fletcher described the soil profile as a natural reservoir; and Meyer and his co-authors described the effect of depth of immersion on apparent photosynthesis in submersed vascular aquatics.

That root growth of trees has a similar pattern to the tops was determined by Harmon. He showed that on hillsides, trees having most of their tops toward the hills will also have most of their roots in a similar direction. If, on the other hand, the tree is forced to grow so that its maximum top development is away from the hillside the roots will similarly have their maximum development in the direction away from the hill center. The limitations of space requires the omission of many other studies deserving of recognition here.

TAXONOMY

The work in this field was too voluminous and varied to be fully covered in the limitations of this summary. Many papers were published describing new algae, mosses, and ferns. A practical study on the kelp resources of southern California and processing methods was discussed by Wohnus.

G. W. Martin described tropical fungi of south and central America. Bessey reviewed some problems in fungus phylogeny and also described a number of Hawaiian fungi; and the genus *Pellicularia* of the Thelephoraceae was investigated by Rogers.

Many new species of angiosperms were reported and monographed. Brunson described the distribution of Indiana Orchidaceae; Smith described the willows of Colorado; and Sherff presented considerable data on Hawaiian members of the genera *Pittosporum, Heterosperma, Xylosma,* and *Bidens.*

Cleland reported on the taxonomic and phylogenetic peculiarities of *Oenothera;* Jacques published a handbook on plant families; studies of central American plants were presented by Standley and Steyermark; and Record described some new names for tropical American trees of the Leguminosae and also American woods of the Theaceae, Rutaceae, Verbenaceae, and Bignoniaceae.

MORPHOLOGY AND ANATOMY

Wylie of Iowa described the role of the epidermis in foliar organization and its relations to the minor venation. He reports that "the living tissues with diminished chlorophyll content (vein-extensions and epidermal layers) not only contribute to the support of the blade but constitute in some degree a supplementary distributive system between the veins of mesomorphic leaves."

Crafts described vascular differentiation in the shoot apex of *Sequoia sempervirens* and also made a comparison of the shoot apices of the sequoias. Bloch described differentiation in the red root-tips of *Phaloria arundinacea;* Gifford noted the structure and development of the shoot apex of *Ephedra altissima;* and, the developmental anatomy of the fruit of the Deglet Moor date was described by Long. Preston made anatomical studies of the roots of juvenile lodgepole pine; Beatty described the division of the generative nucleus in *Eschscholtzia;* and the foliar development in Zamia was reported by Johnson.

The work on plasmodesmata was reviewed by Meeuse. Origin, occurrence, extent, and function of these cytoplasmic structures were discussed in this paper. Artschwager described the morphology and anatomy of guayule. Esau investigated vascular differentiation in the vegetative shoot of *Linum* and also made a similar study of the pear root. Layering and origin of adventitious roots were reported by Bannan; and McCann investigated the development of the pistillate flower of *Aleurites fordii.* Vascular ontogeny in the node of *Ricinus communis* was reported by Reynolds. Tukey and Young reported on the cross morphology and histology of developing fruit of the apple; Allen described parthenocarpy and self-sterility in Douglas fir.

Arber reported on the gynaecium of *Reseda* with consideration of paracarpy. The structure and growth of the vegetative shoot apex of *Garrya elliptica* was presented by Reeve; Butts and Buckholz presented data on cotyledon numbers in conifers. Fond described the ontogeny and histology of the Eureka lemon; variations in floral organs and phyllotaxy were reported by Vivian for *Sagina procumbens.* Cheadle described the origin and certain trends of specialization of the vessel in the Monocotyledonae. Foster described the zonal structure and growth of the shoot apex in *Cicrocycas calocoma;* while Gier described the anatomy of *Taraxcum officinale* and Brumfield reported cell-lineage studies in root meristems by means of chromosome rearrangements induced by x-rays.

PHYSIOLOGY

The work in physiology was extremely heavy and varied. Specific papers are taken up in their fields mentioned below. More general studies in this important division of the plant science follow: Childers described the influence of submersion of the roots on transpiration, apparent photosynthesis, and respiration of young apple trees; aerial roots arising from an old tree wound were reported by Nesbitt; Airola and Crist investigated oxidation-reduction potentials of the tissue fluid of cabbage; while Kozlowski and Schumacker made an estimation of the stomated foliar surface of pines.

ADSORPTION AND NUTRITION

The rates of various elements were determined in a good many deficiency experiments during the year. Potassium was a widely used nutrient, and much was learned from its study. Albrecht investigated potassium in the soil colloid complex and plant nutritions; potash in relation to citrus nutrition was reported by Chapman and Brown; Haley and Reid described the bearing of potassium on tobacco quality; and Nightingale reported on potassium and phosphate nutrition of pineapple in relation to nitrate and carbohydrate reserves. The same nutrient was also studied by Pierre and Bower.

Sulphur deficiency effect upon sunflower plants was reported by Eaton. Marsh studied calcium-boron metabolism in a number of plants; and zinc deficiency for *Pinus radiata* was described by Smith and Bayliss. The iron-manganese ratio in relation to respiration in soybeans was recorded by Somers, Gilbert, and Shive; Trelease described absorption of selenium by corn; and Schroder and Albrecht reported on soil calcium and oxalate content of spinach.

Numerous papers and studies were presented describing ascorbic acid formation, effects of various salts on plant content, electrochemical relations between the root system and the soil, effects of various nitrogenous fertilizers, and many other significant subjects.

AUXINS AND GROWTH HORMONES

Three names appear prominently in the literature for work done in this field: Avery, Berger, and Shalucha. Working together, these men made assays of auxin from wheat; determined the auxin content of maize kernels; compared the activity of synthetic auxins and derivatives; and described dehydrogenases of the *Avena coleoptile*.

A method for extracting auxin was presented by Skoog and Byer. Other papers describing the effect of auxin were presented by Commoner working with potato; Smith and Kersten compared it with Calines when x-rayed; Oserkowsky reported on polar and apolar transport of auxin in woody stems; and Robbins noted the relation of certain fungi to thiamine.

The action of indoleocetic and naphthoxyacetic acids was studied; the effect of calomine, thiamine, and various vitamins; and growth inhibiting and growth promoting substances were studied extensively.

Plants of various types were used, including fungi, liverworts, dandelions, lettuce, tomatoes, orchids, cosmos, tobacco, corn, and many others.

GERMINATION AND DORMANCY

The Boyce-Thompson Institution continued to give much of its time to germination and dormancy experiments. Denny studied the effect of a few hours chilling upon the germination of gladiolus corms and bulblets, and also noted the effects of inhibiting substances on sprouting of potato tubers. Barton described the effect of moisture fluctuations on the viability of seeds in storage and also described the storage of citrus seeds.

Dormancy of many different seeds was checked by a good many investigators. Treatment with semesan in sterilization of grass seeds was described by Stephenson; changes within seeds of *Juniperus schopulorum* during after-ripening and germination were described by Afanaciev and Cress. Flemion reported that added nitrogen has a favorable effect upon germination of seeds of *Symphoricarpos racemosus,* while Brison reported on the influence of storage conditions upon germination of onion seed; and Lemmon and his co-workers studied the sulphuric acid treatment of several legumes to increase germination, seedling establishment, and field stands.

GROWTH, DEVELOPMENT, AND REPRODUCTION

Growth changes in many organisms from fungi to the higher angiosperms were described in detail by many critical observers. Spiral growth in Phycomyces was noted by Castle, while growth changes in a number of trees were reported by Friesner. Hageman, Hodge, and McHargue described the effect of potassium iodide on the growth of tomato plants, while Bonner reported a reversible growth inhibition of isolated tomato roots. Went, working with the same plant, noted the effect of the root system on tomato stem growth; and Day described the growth of excised tomato roots in agar with thiamine plus pyridoxine, nicotinamide or glycine.

The work in tissue culture gained new momentum during the year. White described a technique for plant tissue culture and also published a handbook on the same subject. He followed with a description of the significance of glycine, pyridoxine, nicotinamide in the nutrition of excised tomato roots.

VITAMINS

Youngken and Fischer described the growth effects on *Stramonium* seedlings of pyridine, piperidine, atropine sulphate, and thiamin chloride. Robbins and others described vitamin deficiencies and growth reactions of various fungi particularly with reference to pyridine and thiamin. The distribution of thiamin in the wheat plant was noted by Geddes and Levine.

PIGMENTS AND PHOTOSYNTHESIS

Chlorophyll components were described in a number of plants including diatoms and dinoflagellates through the higher forms to the compositae. Methods were outlined for pigment study and analyses were made of chlorophyll and carotinoids of various leaves. External factors affecting the production of plant pigments were investigated, including drought, spectrum, light intensity, and nutrient absorption.

RADIATION EFFECTS

Photoperiodic responses of a number of plants were studied, including sugar beets, soybeans, *Stellaria pubera,* and *Adiantum cuneatum,* while Parker and Borthwick summarized day length and crop yield data.

Wavelengths of light including x-ray were specifically investigated for many plants in different stages of development. Tomatoes, corn, beans, *Polypodium,* and several green algae were reported in this connection.

ENZYMES AND RESPIRATION

Timely experiments to learn more of the storage of fruits and vegetables were undertaken in 1943. Apples received considerable attention in this work. Smock described the influence of controlled-atmosphere storage on respiration of McIntosh apples; Ezell and Gerhardt studied respiration oxidase and catalase activity of apples in relation to maturity and storage; Denny described inactivation of the browning system in dried apples; and a method of studying the movement of respiratory gases through waxy coatings was described by Nelson.

Other important papers describing fruit investigations in relation to respiration were by Jones working with papaya, and Taylor with wheat and rice. Platenius described the effect of temperature on the respiratory quotient of some vegetables; and Geddes studied respiration and storage behavior of soybeans. New techniques for measuring activity, fermentation, sugar content, culture filtrates, and other phases of respiration were covered by other workers in this field.

CARBOHYDRATE AND NITROGEN METABOLISM

Vickery, Pucher, Wakeman, and Leavenworth described the effect of the form in which nitrogen is supplied to the composition of the tobacco plant. The effect of fertilizers in relation to disease of greenhouse tomatoes was discussed by Thomas and Mark; Schmidt noted the effect of adding protein to a *Cladophora* culture. McIlvaine described carbohydrates and nitrogen trends in bluebunch wheatgrass in relation to grazing; the relationship between nitrogen transport and metabolism in the oat seedling was described by Albaum; and Galston reported on the isolation, agglutination, and nitrogen analysis of intact oat chloroplasts.

CHEMICAL CONSTITUENTS AND TOXICITY

Legumes played a very prominent part in the investigations in this field. Hamner described the effects of platinum chloride on beans; variations in ascorbic acid and dry content of cowpeas at different times of the day were noted by Reid; the chemical composition of soybeans and the amount of boron absorbed by soybeans and its effect on their growth were investigated by different individuals. Other vegetables and field crops were similarly studied.

OSMOSIS, PERMEABILITY

Most of the work done in this field of physiology was concerned with the entry of water and minerals into root systems. White described the osmotic *vs.* the respiratory rate of sucrose in the nutrition of excised tomato roots. Van Overbeek investigated the uptake of water by excised root systems of the same plant.

The entry of water into roots was measured by a potometric device by Hayward and workers. Ayers compared the calcium and sulphur content of plant fluids expressed from tissues killed by autoclaving and by freezing with solid carbon dioxide.

TRANSPIRATION, TRANSLOCATION, WATER RELATIONS

Montermoso and Davis described rhythmic fluctuations in transpiration of *Coleus blumei* under constant environmental conditions. Limited success with auto-irrigators for controlling soil moisture under growing plants was reported by Richards and Loomis. The effect of prolonged chilling on water movement and radial growth in trees was described by Handley. Colwell used radioactive phosphorus in translocation studies, while Kramer noted species differences with respect to water absorption at low soil temperature. Warne described the supply of water to transpiring leaves. Cain compared transpiration rates of peaches and citrus; and the same factor in American holly was discussed by Swanson.

PATHOLOGY

The work in pathology was very heavy in 1943 with investigations in disease caused by fungi, bacteria, viruses, animals, and organic disturbances. Many studies were made of disease control, particularly in regard to the use of fungicides, insecticides, and practical surgery. Fruit disease control was studied also by variations in temperature and the use of gases.

It is not possible, within the limitations of this survey, to mention even a few of the many significant papers published in this important field. The writer has recognized this fact in his compilation of all botanical fields and has only attempted to mention briefly the vast amount of study and progressive work made in botany the past year. Another section in this book deals with applied botany.

ECONOMIC BOTANY

By H. K. Wilson

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WAR CROPS

Rubber.—The need for natural rubber is well known to all. The guayule and the Russian dandelion (*Taraxacum koksaghyz*) are receiving much attention. Federal workers are cooperating with the various state agricultural experiment stations in the many problems of growing the crops, harvesting, and storage of the matured product.

The added interest in rubber producing plants has resulted in numerous publications. A popular discussion of the milkweeds and several other latex bearing plants including dogbanes, *Euphorbias*, chicory, members of the mulberry family, guayule, Colorado rubber plant, and rabbitbrushes has been prepared by Stevens (*N. Dak. Sta. Bimo. Bull.* 5:11-15. 1942).

Hemp.—Another wartime development is the increased use of hemp (*Cannabis sativa*) which is being cultivated for its fiber. Several of the northern states are engaged in hemp production, and plants have been constructed for the processing of the fiber which will be used as a substitute for those fibers formerly imported from the Orient.

Flax.—Prior to the present war, cigarette paper was imported from Europe. With the supply of such paper cut off, industry looking for a substitute turned to the use of flax straw fibers, and today we find a new industry built on this need. Large processing plants have been constructed and the former waste product, flax straw, now enters into the production of paper. It is estimated that the straw from some 300,000 acres of flax was used in this manner during the past year.

THE SOYBEAN AND THE WAR

Today there is an ever increasing demand for oils and fats. Formerly we imported great quantities of oils from the Far East and were it not for the soybean our war efforts would be far behind present levels. Although the soybean was introduced into America many years ago, its development into an important agricultural crop has been comparatively recent. In 1943 our production of soybeans was more than 200,000,000 bushels, a tremendous increase over the 5-year average annual production of 15,845,000 bushels for the years 1927-31. Soybean mills are dotted throughout the Corn Belt and are maintaining a constant production of oil and other products so essential in these times.

Edible soybean products are coming to be appreciated by the consumer. Probably some 500,000,000 pounds of soy flour and grits will be manufactured from the 1943 crop of soybeans. Much of this material is being sent abroad to our armies and a considerable amount is being made available for Lend-Lease. From July 1941 to August 1942 some 61,000,000 pounds of soybean products were used for Lend-Lease.

The army is making great use of soybean products. They are used in pork link sausages to stretch the meat and increase the protein content. They are an important part of the Army K ration being used principally in the K biscuits.

The vegetable types of soybeans were widely grown in the victory gardens of the nation in 1943. As natural prejudices are broken down, we may expect further use of the soybean as an important garden vegetable.

DEVELOPMENT OF WAXY SEEDS

Since supplies of tapioca from the Orient can no longer be obtained, a one-time genetic curiosity—"waxy-corn"—assumes a place of great importance. Tests have shown this product to be entirely satisfactory as a substitute for tapioca with many people unable to distinguish between commercial tapioca and the waxy corn product when the two kinds are made into puddings. In some cases a preference was shown for the corn product. Since our annual imports of tapioca have averaged about 350,000,000 pounds, it is apparent that waxy corn may be of great value. Seed is being increased rapidly and it is believed that by 1945 the supply of first generation hybrid seed will be sufficient to provide for food needs as well as for the manufacture of adhesives.

Certain of the sorghums also produce a type of waxy seed. Two of the most promising varieties are Waxy Kafir and Waxy Club. The qualities and uses of the waxy sorghums are much the same as those of waxy corn.

Leoti sorgo has been suggested as a promising starch variety by Cushing (*Neb. Sta. Circ. 69.* 1942). The variety is suitable for both sirup production and starch. It may be expected to yield about 70 per cent as much as Early Kalo, the most widely grown sorghum variety in Nebraska. Where best adapted, as in the central and south central area, Leoti compares favorably with corn in grain yield. To utilize the variety for its waxy endosperm it is necessary to use a chemical test to make certain of pure seed and then to plant the crop where cross-pollination with other varieties may be avoided. The author suggests that Leoti may satisfy forage requirements and furnish suitable grain if the market demand develops. At present there is no suggestion of a need for an expansion of the acreage of Leoti to be grown for seed only.

POTATO VARIETIES AND STORAGE

The Kasota potato is a new and promising variety developed from a cross between a seedling selection 29-13 and Triumph (*Amer. Potato Jour.* 20:25-27. 1943). The cross made at the Minnesota Agricultural Experiment Station in 1933, resembles Triumph in some characteristics, having a broadly roundish, smooth, medium, red tuber. It is a midseason variety which endures heat well and appears to be well adapted to locations favoring midseason varieties. Its resistance to *Fusarium* wilt has been demonstrated in trials to date.

Another potato suitable for both the early and late crop in the Greeley, Colorado area is Pawnee, a variety developed by crossing Rural New Yorker and Katahdin. Pawnee is a rapid grower, producing smooth, short, elliptical to roundish uniform tubers with few, shallow eyes. The skin of the tuber is relatively tough, making it less subject to harvest injury. The cooking and storage qualities are good.

The proper storage of the potato is a major problem. Extensive studies by Parsons (*Kansas Sta. Bull. 310,* 1942) showed that U.S. No. 1 potatoes were preferable to the lower grades for storage. Where decay or sun damage defects were evident, deterioration and shrinkage were severe. The use of closely woven cotton sacks was found to decrease the weight shrinkage of stored potatoes as compared with those stored in burlap or open-mesh sacks. Ultra-violet ray treatment was ineffective in improving keeping qualities of potatoes with common defects.

It is desirable to provide sufficient air circulation to prevent moisture condensation on the tubers after the first week or two of storage. The minimum of shrinkage occurred when the relative humidity remained fairly uniform at from 85 to 90 per cent. The most satisfactory temperatures were near 45°F. Temperatures below 40° for a long period may cause changes in flavor.

HYBRID CORN

The development of hybrid corn by the plant breeder has resulted in one of the greatest changes in agriculture in history. On an average the hybrid varieties yield about 20 per cent more than the old open-pollinated varieties. As a result of hybrid corn, it has been estimated that corn production in 1943 was increased by some 500,000,000 bushels.

Hybrid varieties are growing rapidly in favor. In 1943, Iowa, the center of hybrid corn acceptance, planted 98 to 100 per cent of its corn acreage to hybrid varieties, while the states of Ohio, Indiana, Illinois, Wisconsin, and Minnesota all planted more than 80 per cent of their 1943 acreage with hybrid varieties.

Not only do the hybrid varieties give higher yields, but they mature earlier, and produce a more uniform crop with a higher percentage of marketable ears.

The corn breeder is ever searching for improved methods of evaluating his material, as any plan which speeds proper evaluation means a saving both in time and money. Hayes, Murphy, and Rinke (*Jour. Am. Soc. Agron.* 35:60-65. 1943) report on methods of predicting the yields of double crosses as based on early work of Jenkins (*Jour. Amer. Soc. Agron.* 26:199-204. 1934). The predicted yield and moisture content was obtained by averaging the performance of four of the six single crosses that can be made between four inbred lines, without the use in the average of the two single crosses used as parents of a particular double cross. Of the 114 double crosses selected, 111 gave actual yields that were highly significant based on statistical analysis. The authors concluded that "from the practical standpoint, there was excellent agreement between the predicted and actual double crosses in yield and moisture content."

COMPARATIVE VALUE OF CROPS

A very valuable contribution to the studies of comparative values of different crops for different sections has been made by Hayes (*Minnesota Sta. Bul. 365,* 1943). He reported on the crop performance in varietal trials for the period 1921-41 at six stations in Minnesota and gave detailed reports for each. Corn led in total digestible nutrients per acre at all stations where grown, followed by barley, its nearest competitor. It appears that more attention to careful studies such as the above may be expected to lead to more profitable agricultural enterprises.

OAT IMPROVEMENT

For many years most oat varieties have been subject to the ravages of a number of diseases. Of these diseases black stem rust and crown rust are of major importance. Several varieties were known to possess resistance to black stem rust but no standard variety could resist an epidemic of crown rust. This situation led to wide fluctuations in yield depending upon the severity of the disease epidemic.

The United States Department of Agriculture, in cooperation with several of the state agricultural experiment stations, has crossed Victoria, an introduction resistant to crown rust, with Richland, a standard Corn Belt variety. From this cross have come several new varieties possessing resistance to both types of rust and to the smuts. The Iowa Agricultural Experiment Station has released several selections from this cross—Tama, Boone, and Control. The Wisconsin station has distributed Vicland, while South Dakota has released Vikota, and Nebraska the variety Cedar. All of these varieties came from the same cross and for the most part possess the same disease resistant characteristics.

The performance of these new varieties has been phenomenal. Under disease epidemic conditions they have yielded much more than standard varieties. It appears that these varieties will add millions of bushels to the oat production of the Corn Belt, a very significant factor during the present demands for increased production.

GRASSES AND LEGUMES

The associative relationships between grasses and legumes has long been a matter of discussion. Aberg, Johnson, and Wilsie (*Jour. Amer. Soc. Agron.* 35:357-69. 1943) reporting on recent studies, found bromegrass to be better able to compete with other crops in mixture than either timothy, alfalfa, or red clover. Alfalfa gave significantly lower yields when grown with bromegrass and with red clover as compared with pure stands.

The nitrogen percentages of the crops were not significantly different for grasses grown in association with legumes, and those grown alone.

In neither greenhouse nor field studies was there a significant gain or loss in forage or root yields for both members of an association. When significant gains were made by a species grown in a crop combination it usually was made by the most vigorous crop and the losses by the least vigorous crop.

The Missouri Agricultural Experiment Station has been making excellent use of a comparatively new legume, Korean lespedeza (*L. stipulacea*), in a modification of rotation practices. Etheridge (*Jour. Amer. Soc. Agron.* 35:212-15. 1943) reports on the use of lespedeza in a small grain annual rotation.

The rotation is initiated by sowing lespedeza on wheat in winter or early spring. Shortly after the wheat is harvested in June, the lespedeza may be pastured until the end of the season in October, or it may be used for midsummer hay or for a fall crop of seed, or by proper management harvested for both hay and seed. In the fall as the seed approaches maturity, the sod is disked and harrowed and wheat is seeded. The abundance of seed provides for a good volunteer stand of lespedeza the following spring. This rotation may be continued as long as desired, providing needed mineral fertilizer is applied from time to time.

At the Missouri Station in the normal seasons of 1938, 1939, and 1940, the wheat averaged 24 bushels per acre and the lespedeza pasture 133 pounds of live-weight gain by beef cattle. This is very striking when one considers that the soil had a normal producing capacity of only 25 to 30 bushels of corn.

The annual rotation not only gave good returns, but it greatly reduced the cost of seedbed preparation since it was unnecessary to use the plow. With the proper use of mineral fertilizers, such a program should appreciably improve the fertility of the soil.

Crested wheat grass has become a very important forage plant in the Northern Plains area where its ability to grow under the very dry conditions of that part of the country has led to its increased use as a hay and pasture grass. Throckmorton of Kansas estimates that crested wheat grass has added enormously to the value of millions of acres of land.

In the Plains region there have been developed new methods of harvesting seed and in the reseeding of native grasses as buffalo, grama, and the bluestems, thus returning these areas unsuitable for cultivation to grass where they may be expected to yield a maximum of grazing value. In a relatively short time much has been done to repair the damage resulting from placing these lands in cultivation with the accompanying erosion and destruction of native stands of grass. It is impossible adequately to estimate the monetary value to the nation of the reclamation of these grass ranges. Since 1938, approximately 6,000,000 acres of cultivated land in the Great Plains have been returned to grass.

THE USE OF HORMONES

Considerable attention has been given to the use of hormone seed treatments. Kiesselbach (*Jour. Amer. Soc. Agron.* 35; 321-31. 1943) investigated these treatments and found no important significant effects on the germination, seedling growth, maturity, or yield of field grown corn, oats, barley, and soybeans. He was unable to note any vegetative differences in response between open-pollinated, inbred, and F_1, or F_2 hybrid corn. When treatments were excessive, injury resulted. In corn he noted retarded germination, reduced stands, and seedling vigor as well as delayed flowering.

In general, these results were similar to those obtained by other investigators. In unpublished results, Borthwick, of the United States Department of Agriculture, speaking at the annual meeting of the American Society of Agronomy in Cincinnati, O., Nov. 12, 1943, reported that he had been unable to secure beneficial results from any of the hormone seed treatments he had tested. Several other investigators reported similar results.

In the past the losses from the premature falling of apples and pears often resulted in the failure of the fruit grower. Recently, it has been shown that the use of certain sprays, such as naphthaleneacetic acid, may effectively check this tendency of the fruits to fall before the grower can complete harvest.

Hoffman, Edgerton, and Van Doren (*Amer. Soc. Hort. Sci. Proc.* 40:35-38. 1942) found naphthaleneacetic dust to be as effective as the spray in reducing preharvest drop. They found that weather conditions were important in influencing the drop of apples and suggest that proper timing of spraying or dusting is important in determining beneficial effects.

Davey and Hesse (*Amer. Soc. Hort. Sci. Proc.* 40:49-53. 1942) obtained favorable results with preharvest sprays applied to Bartlett pears. An average of more than three or four days was necessary for the expression of the spray influence. With chemicals at the strengths of 10 and 5 p.p.m., the fruit drop after treatment was reduced to about 50 per cent of that on untreated trees. In one trial, using naphthaleneacetic acid, the drop was reduced to about 33 per cent of that of the check.

WEED CONTROL

The control of weeds is a never ending problem. Wilson, *et al* (*Minn. Sta. Bul.* 363, 1942) report on methods of controlling weeds. Field bindweed was eradicated in from two to three years by a season of cultivation followed by rye or winter wheat sown about Sept. 15. The grain crop was removed as early as possible and cultivation resumed. Biweekly cultivation was more effective than more frequent tillage. Cultivation of bindweed-infested fields until July 1, followed by a summer competitive crop, proved valuable, with Sudan grass, millet, sorghum, and soybeans being the best crops tested. Bindweed was eradicated in from two to three seasons on areas seeded to rye or winter wheat and grazed by sheep until June 15, followed by summer fallow and grain sown again Sept. 15.

Sodium chlorate, the best chemical for eradicating long-lived perennials, was most effective when applied in the late summer or early fall and at the rate of about 500 pounds per acre. Sinox, a sodium salt of dinitro-orthocresol, has killed mustards, wild radish, wild buckwheat, and ragweeds with little damage to flax or cereal crops.

Lawn weeds, a problem to most homeowners, were controlled through the use of water-white kerosene (Saybolt 23) applied at the rate of one-half gallon to each 100 square feet.

SUGAR BEET MECHANIZATION

The mechanization of sugar beet production is of especial importance during the present war emergency. The principal bottleneck in sugar beet production has been the problem of securing adequate labor, and under war conditions the situation has become more acute. More and more use is being made of the machine to replace man labor. As the sugar beet glomerule contains several seeds, it has been necessary to resort to considerable hand thinning of plants. The use of an ingenious machine breaks the glomerule or seed case into segments and makes possible the growing of a high percentage of single plants. When the plants have emerged, machines may be used to cross-cultivate and thus remove excess plants. When this is followed by improved harvesting machines the hand labor is largely replaced. Sugar beet agronomists are predicting that mechanization will eventually make it possible to produce beet sugar in competition with cane sugar without the protection of the present tariffs which have been required to make the production of beet sugar profitable.

SOIL FERTILITY

Experimental trials of improved varieties are of necessity limited to relatively few soil types when one considers the wide range of fertility levels that may exist within a given state. Frequently the actual response of a variety may differ widely under varying levels of soil fertility. Worzella (*Jour. Amer. Soc. Agron.* 35:114-24. 1943) reports on studies of the response of wheat varieties to different levels of soil fertility. He used five varieties of wheat on three levels of soil fertility, on each of three soil types, during a five year period.

The wheat varieties showed a differential varietal response in grain yield between the different fertility levels. The varieties tended to fall into distinct response groups, with some yielding relatively higher on well-fertilized plots while others were relatively more efficient when grown on low-fertility plots. The author concludes, however, that the same adapted variety should be recommended for all productivity levels of a soil.

PERIODICAL PUBLICATIONS

American Botanist
5257 Hinesley Ave., Indianapolis.

American Journal of Botany
Botanical Society of America, Botanical Garden, New York City.

American Naturalist
Science Press, Lancaster, Pa.

Annals of the Entomological Society of America
Ohio State University, Columbus.

Botanical Gazette
5750 Ellis Ave., Chicago.

Botanical Review
Botanical Garden, New York City.

Ecology
1000 Washington Ave., Brooklyn, New York City.

Journal of Economic Entomology
George Banta Publishing Co., Menasha, Wis.

Journal of Experimental Zoology
36th Street and Woodland Ave., Philadelphia.

Journal of Mammalogy
American Museum of Natural History, New York City.

Journal of Morphology
36th Street and Woodland Ave., Philadelphia.

National Horticultural Magazine
American Horticultural Society, Washington, D. C.

Quarterly Review of Biology
Mount Royal and Guilford Aves., Baltimore, Md.

Scientific American
24 West 40th Street, New York City.

Yale Journal of Biology and Medicine
New Haven, Conn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Academy of National Sciences of Philadelphia, Logan Sq., Philadelphia, Pa.

American Assn. of Economic Entomologists, College Park, Md.

American Assn. of Museums, Smithsonian Institution, Washington, D. C.

American Microscopical Society, Kansas State College, Manhattan, Kan.

American Museum of Natural History, Central Park W. and 77th St., New York City.

American Nature Assn., 1214 Sixteenth St., Washington, D. C.

American Nature Study Society, 5540 Pershing Ave., St. Louis, Mo.

American Ornithologists' Union, Ohio State University, Columbus.

American Phytopathological Society, Bureau of Plant Industry, Washington, D. C.

American Society of Naturalists, Indiana University, Bloomington.

American Society of Zoologists, Princeton University, Princeton.

Boston Society of Natural History, 234 Berkeley St., Boston, Mass.

Botanical Society of America, Osborn Botanical Laboratory, Yale University, New Haven, Conn.

Entomological Society of America, (Clarence H. Kennedy, Editor), Columbus, Ohio.

Eugenics Research Association, Cold Spring Harbor, New York.

Field Museum of Natural History, Roosevelt Road and Lake Michigan, Chicago, Ill.

Franklin Institution, Benjamin Franklin Parkway at 20th Street, Philadelphia, Pa.

Museum of Comparative Zoology, Cambridge, Mass.

National Audubon Society, 1006 Fifth Ave., New York City.

New York Microscopical Society, American Museum of Natural History, New York City.

New York Zoological Society, 630 Fifth Ave., New York City.

Paleontological Society of America, American Museum of Natural History, New York City.

Reptile Study Society of America, Inc., 536 E. 84th St., New York City.

United States National Museum, Tenth and Constitution Ave., Washington, D. C.

DIVISION XXIII

MEDICAL SCIENCES

MEDICINE, PATHOLOGY, PHYSIOLOGY

By Max Trubek
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GENERAL

Medical progress during 1943 was largely attended by improved methods of treating the casualties of war and improving the health of the armed forces. By the coordinated efforts of various groups under government direction the efficacy of penicillin was firmly established for a variety of diseases and its superiority to the sulphonamides demonstrated in some instances. Its production has been progressively augmented so that more shall be available for civilian medicine. Methods for the treatment of burns have been improved and new techniques employed for the treatment of shock. Re-education of the medical profession in this country has been under way for the better understanding of the multitude of diseases being encountered by our armed forces in all parts of the world, many of which will reappear as civilian medical problems. The use of protective vaccines and the use of chemotherapeutics have controlled epidemic diseases and wound infections in a measure never previously attained. Widespread epidemics of certain relatively mild diseases and against which no specific therapy has as yet been developed have resulted in a great deal of transitory disability among the armed forces and civilian population.

PENICILLIN

Penicillin is a substance derived from a common mold, penicillin notatum. Evidence of its existence was first discovered by Prof. Alexander Fleming at St. Mary's Hospital, London. While examining some culture plates that had become contaminated by air-borne bacteria, Professor Fleming noted that the staphylococcus colonies surrounding a colony of contaminating mold had become transparent and obviously were undergoing destruction. He surmised that the fungus was giving forth a substance which prevented the growth of these bacteria. His subsequent experiments proved the correctness of this hypothesis. He described his results in the June 1929 issue of the *British Journal of Experimental Pathology.*

His experiments demonstrated that the mold could be grown on broth and that the filtered broth culture contained a potent antibacterial substance effective against a great variety of gram positive organisms. This broth filtrate, to which he gave the name Penicillin, was non-toxic to animals even in enormous doses. The value of this substance was at first greatly limited because nothing was done about the discovery until 1940 when a group of Oxford workers under the leadership of Chain and Florey announced the result of experiments confirming the findings of Fleming and also the isolation of the active principle, in impure form, as a brown powder freely soluble in water. These aqueous solutions could be injected freely into animals; they afforded protection against the staphylococcus, streptococcus, and some of the gas gangrene bacilli. Favorable results were also obtained in a number of human cases of fulminating infection by these organisms.

Interest in the clinical possibilities of penicillin was greatly stimulated by the publication of these papers. In the autumn of 1941 arrangements were made for its production in the United States. The difficulties of producing even limited quantities of the new drug made it imperative that all supplies be rigidly controlled and devoted only to those investigations which appeared most likely to contribute to the knowledge of its proper use. For this reason the Committee on Medical Research of the Office of Scientific Research and Development appointed the chairman of the Committee on Chemotherapeutic and Other Agents of the National Research Council to supervise the distribution of all stocks available for clinical research. In this way accurate and reliable data have been accumulated and summarized. It soon became apparent that the discovery of penicillin marked a step forward in chemotherapy comparable to the discovery of the sulfonamides.

PROCESS OF PENICILLIN PRODUCTION

The efficacy of penicillin has been established in a wide variety of diseases. Until recently manufacturers have been concerned with producing only enough material to meet the demands of adequate clinical research and use by the armed forces. Great increases in production have now been planned by new units set up by pharmaceutical and chemical concerns. The production of penicillin is a difficult and delicate microbiologic process influenced by a host of factors the slightest variation in any one of which might seriously affect the potency of the material.

Of first importance is the selection of a high potency strain of penicillin notatum, since strains of the mold from different sources vary widely in their ability to produce the drug. The master stock cultures can be preserved indefinitely in the refrigerator. They are prepared by mixing an aqueous suspension of the spores with dry sterilized sand or soil and drying the mixture in a frozen state. In manufacturing a batch of penicillin, a loopful of the soil-spore mixture is spread evenly over the surface of a solidified Sabouraud's agar, which is then incubated for four to six days. At this time the mold has developed uniformly over the surface of the agar to form an abundance of grass-green spore. There are now enough spores to inoculate dozens of Roux bottles containing the same medium, and these in turn provide enough material to inoculate several hundred flasks of liquid medium, which, after the growth of the mold, is known as penicillin broth. The flasks of inoculated media are incubated for seven to 14 days. The spores floating on the surfaces first germinate and form white, cottony vegetative patches on the surface. These gradually spread until a thin mat is formed over the entire surface of the liquid. At the same time, a yellow pigment, chrysogenin, is exuded into the medium. On the sixth day, the white vegetative growth on the surface of the mat begins to be replaced by green spores. With increased age the pellicle begins to wrinkle, until finally the surface is characterized by innumerable convolutions.

Many factors influence production of the drug. Penicillin diminishes if the Ph drops below a certain critical level or if certain impurities are present in the medium even in traces. By periodically assaying the liquid medium it is possible to harvest the batch at the time of peak penicillin accumulation. The clear filtered broth is extracted with organic solvents, and the final product obtained is an aqueous solution of the sodium salt of Penicillin. This orange-yellow solution yields a light orange-colored dry product which is the preparation used clinically. This product is distributed in ampoules containing 10,000, 100,000, and 1,000,000 Oxford units of potency. This arbitrary unit is defined by Florey and Jennings as that amount of penicillin, which, when dissolved in 50 cc. of meat-extract broth, just inhibits completely the growth of the test strain of staphylococcus aureus. The powder supplied in ampoules is stable unless exposed to high temperatures, but it is safest to take the additional precaution of refrigerator storage.

The production of penicillin by extraction of the metabolic product of a fungus, always will be, of necessity, a laborious and comparatively expensive time consuming task. As yet penicillin is an impure amorphous material. The isolation of the pure active principle would be rapidly followed by accurate analyses and these by degradation reactions. Eventually its chemical constitution may be definitely established so that synthesis may be attempted as has recently so brilliantly been accomplished in the field of the vitamins.

ADMINISTRATION OF PENICILLIN

The rate of absorption and excretion of penicillin differ somewhat according to the route of administration. Following intravenous administration, the concentration of the drug in the blood stream reaches a peak immediately and then falls abruptly. With larger doses the peak concentration becomes higher and detectable traces remain longer. An intravenous dose of 5,000 units produces an inhibitory concentration in the blood for only 30 to 40 minutes, a dose in excess of 20,000 units may produce the same effect for about three hours. By intramuscular injection the maximum effect is somewhat delayed and slightly more prolonged.

Given by mouth or by rectum, absorption is very poor but fairly rapid by duodenal intubation. When instilled into the body cavities, such as the pleural cavity or joint space, systemic absorption is slow as determined by measurement of its excretion into the urine. Some may be excreted also by way of the liver and bile; when kidney excretion is impaired, a higher blood concentration is maintained. It can be administered directly into the spinal canal; toxic manifestations may, however, appear if the amount injected exceeds 5,000 units.

With properly prepared penicillin reactions are rare and usually mild. It possesses few or no toxic properties. Rarely a thrombophlebitis is noted after the use of concentrated solutions, a few instances of urticaria have been noted, and if pyrogen free distilled water is used in the preparation of solution to be injected intravenously, the possibility of febrile reactions will be minimized.

PENICILLIN TREATMENT OF INFECTIONS

Penicillin has proved to be remarkably effective in the treatment of infections produced by the staphylococcus aureus, pneumococcus, hemolytic streptococcus, and the gonococcus. Except for the meningococcus and gonococcus it is not effective against gram-negative organisms. In the treatment of staphylococcus infections with blood stream invasion, results have often proved striking except when the illness is of long standing and there have resulted deep and inaccessible foci of suppuration. Younger patients without complicating disorders, such as the presence of a malignancy or a blood dyscrasia, show the most favorable response. If vegetative endocarditis has been present prior to institution of penicillin therapy, then the effects of the drug appear to be nullified. It is important, therefore, that in staphylococcic bacteriema adequate treatment be instituted promptly.

Impressive results have also been obtained in the treatment of staphylococcus osteomyelitis. Both local and parenteral routes have been employed in the treatment of this condition. Superficial skin infections, including smaller carbuncles, have been successfully treated by local application. Intrapleural injections have proved successful in many cases of empyema although even sterilization of the exudate has not always obviated the need for drainage by thoracotomy.

There is also good evidence that

hemolytic streptococcic infections are susceptible to penicillin though the number of cases treated is not as great as those due to the staphylococcus. In general the same principle which adversely affect the prognosis in the latter group apply to streptococcic infections. Penicillin has proved to be highly effective in the treatment of pneumococcic pneumonia; cure in many instances has required only a relatively small quantity of the drug, administered over a period of two to three days. As with staphylococcic empyema, best results are obtained in pneumococcic empyema by injecting the drug directly into the pleural cavity.

The results obtained in the treatment of gonorrhea with penicillin have been unusually good. Many infections resistant to sulfonamides respond favorably. Those cases experienced relief of symptoms and became bacteriologically negative in nine to 48 hours after treatment with between 100,000 and 160,000 units. Subacute bacterial endocarditis has not recently shown any encouraging results after therapy in conjunction with heparin although inadequate supplies have so far prevented any large scale investigations. Favorable results have been produced in the treatment of a small series of patients with early syphilis. Each of four patients received 25,000 Oxford units of the drug intramuscularly every four hours for eight days, or a total of 1,200,000 units. Spirochetes disappeared from the initial lesions about seven hours after treatment was started, and the patients became serologically negative. One must await a long period and watch for relapses in serology or the clinical appearance of later manifestations before passing any opinion as to its efficacy in this illness whose chronic insidious course is so well known.

SYRETTES IN MILITARY MEDICINE

In addition to the invaluable aid to our casualties from the use of sulfa drugs and blood plasma and more recently penicillin, new substances and procedures have been added to the armamentarium of the military physician. Syrettes, a self contained single dose hypodermic unit, went into action at Pearl Harbor and has received the unqualified praise of the medical officers of both Army and Navy. Their use obviates the need for preparing hypodermic solutions in an emergency as an aid in preventing shock and rendering relief from pain.

A "Syrette" is a small collapsible metal tube, fitted with a hypodermic needle, for the convenient administration of a drug in solution. Before use, the solution is prevented from entering the needle by a soft metal seal or diaphragm. The needle is fitted with a stylet of wire of such size that it will comfortably slide in the lumen of the needle. The needle is protected by a transparent hood. For use, the hood is removed and the stylet pushed into the diaphragm, thus permitting the solution to flow into the needle. The stylet is then removed, the needle is introduced subcutaneously, and the tube is compressed.

HUMAN SERUM ALBUMIN

In the treatment of traumatic shock, the rationale for the use of plasma is based largely upon its content of those proteins which influence osmotic pressure and, through this, the body water balance. Normal human plasma contains between 6 and 7 per cent protein. Of the plasma proteins, the albumin, although constituting only about 60 per cent of the total, is responsible for approximately 80 per cent of the osmotic pressure of human plasma.

The fractionation of albumin from blood plasma is an exceedingly complex process developed at the Harvard Medical School. The albumins, as obtained by this procedure, are readily dried under a vacuum, yielding a practically white powder of exceedingly high purity which readily dissolves in water to form a perfectly clear, stable solution even in concentrations of 25 per cent or more. The product as supplied to the armed forces consists of one bottle (one unit) of 25 grams of concentrated albumin in 100 cubic centimeters of a buffered diluent, contained in a double-ended glass ampoule, rubber stoppered at each end. Each ampoule, together with the apparatus for its administration (air filter needle, intravenous set and needle) is enclosed in a metal can. The blood is collected by the American Red Cross in sterile bleeding kits and is sent under refrigeration to the laboratories. The blood is subsequently centrifuged to remove red and white blood cells. The fluid is then fractionated and processed to yield serum albumin.

The product is packaged and stamped with the control number which identifies every step through which this particular lot has passed. By this procedure most of the benefits to shock for which plasma is administered are accomplished in a simpler way. The package is smaller and the method of injecting it is easier and quicker. The disadvantage is the small volume of concentrated protein solution which, to accomplish its purpose, withdraws fluid from the body tissues to augment the blood volume. Its use is contra-indicated, therefore, in dehydrated patients. In addition, it lacks the immune bodies present in the globulin fraction of whole plasma. With these limitations in mind, the use of concentrated serum albumin solutions will prove of great value for the prompt treatment of patients in shock, particularly in locations where plasma packages can not be conveyed or where the trained personnel for its administration is not available.

TYPHUS FEVER

To meet the demands of the armed forces for the production of typhus vaccine, new methods and greater facilities were needed. The initial step in production is to sterilize the shells of the hens' eggs used as culture material and to drill a small hole in each. The eggs are then inoculated with live typhus virus, sealed, put in the incubating room, and kept there until the chick embryo dies, which is about a week. By this time the culture contained therein has reached its greatest growth. From this culture, the vaccine is prepared by carefully controlled methods.

The strain of virus used was isolated from a case of typhus fever during an epidemic in Europe some years ago and has been maintained by serial passage through thousands of guinea pigs. Use of the vaccine affords protection in the majority of individuals to whom it has been given. Where protection has not been complete the clinical course of the subsequent disease is greatly modified. Typhus fever, notorious as one of the most fatal diseases among laboratory workers, as well as in hunger ridden populations and in armies, has at last been tamed.

METHYL BROMIDE

This substance is used to fumigate soldiers' clothing and equipment. An ampoule containing methyl bromide enclosed in a small cloth bag is placed within a large sack or duffle bag within which is the material to be fumigated. The ampoule is then crushed, and the escaping gas thoroughly decontaminates everything in the sack. This chemical method is the present answer to the "cootie," the louse which not only causes great discomfort but also spreads typhus.

PRIMARY ATYPICAL PNEUMONIA

During the past few years there has been recognized, with increasing frequency, an acute respiratory infection associated with peculiar pulmonary lesions. The vast majority of cases have occurred among young adults especially, also in army camps. Inability to isolate a common pathogenic bacterium has led to the use of the term "virus pneumonia." Numerous designations, including "current bronchopneumonia of unusual and undetermined etiology," "atypical pneumonia with leukopenia," "pneumonitis," "acute influenzal pneumonia," "acute diffuse bronchitis," and a variety of other names are used to describe similar conditions. Atypical pneumonia has existed for many years. The disease occurs endemically and in minor epidemics. There has been a considerable increase of this illness in recent months. The more frequent use of the x-ray has helped to identify more of these cases.

A gradual onset noted in the majority of the cases is associated with prodromal symptoms of non-productive cough, low grade fever, muscular aching, malaise, headache, and an occasional sore throat. The cough later becomes productive and often paroxysmal. Substernal soreness, chilly sensations, occasionally frank chills and profuse sweats were frequently noted as the infection progresses. Soreness of the abdominal muscles due to prolonged coughing was commonly noted. Abdominal pain and tenderness, with occasional nausea and vomiting, were observed; occasionally the differential diagnosis of acute appendicitis arises. At first the examination of the lungs showed only suppressed breathing; a few crackling rales might be noted. Often after 24 to 48 hours, diffuse coarse moist rales appeared; later there might be noted a few patches of accentuated breathing, suggesting localized pneumonic consolidation. The white blood counts were usually slightly elevated, between 12,000 and 14,000 per c.m.m. The temperatures varied from normal or slight elevation to 105 F., and fluctuated widely during the 24 hours. The average temperatures were between 101 and 103 F. The spread of the patches of seeming consolidation was noted from lobe to lobe. The pulse and respiratory rate were usually not accelerated. The febrile course usually did not exceed five days but in some cases a low grade fever persisted for several weeks. The annoying cough often persisted for many days after the acute illness subsided. Sedatives and antipyretics, aside from bed rest and fluids, were the only medications of value. Chemotherapy seemed indicated and of benefit only in those patients where there seemed to be evidence of more confluent involvement of the lung parenchyma. Usually its use was discontinued when seen to have no value. Acute complications were very rare, almost all cases recovered. A few patients developed evidence of involvement of the spinal cord presumably by the same offending virus. The cough was distressing and hard to control. The sputum showed streptococci or nonclassifiable pneumococci. Invalidism was sometimes prolonged because of the persistent residual lung moisture and cough.

The x-ray showed the dominant involvement in the lower lobes. Often an increased density was noted following the bronchial tree from the hilus and at times, in addition, mottled patches at the periphery of the bases. Some of these cases were misdiagnosed as tuberculosis when the involvement was in the upper lobes. The clinical and x-ray findings have been interpreted as due to bronchitic occlusions by the swelling and inflammatory reactions characteristic for the illness. The areas of seeming pneumonia are actually areas of airless lung tissue, at times reaching fairly large proportions, so that lobar pneumonia is simulated on the x-ray film. In the severe cases prolonged convalescence is important to allow restitution of the bronchial walls and mucous membranes and to avoid if possible a permanent defect of these structures. For these reasons the disease gives rise to a great loss of mandays and has become of great military importance in addition to its disorganizing effect upon civilian life.

EPIDEMIC KERATO CONJUNCTIVITIS

This disease (shipyard conjunctivitis) was first reported in 1941 on the West Coast. The following year it was noted on the eastern U. S. seaboard. Reports received from the Middle West indicate that the disease is now appearing in parts of the important industrial area. It is a new infection of wartime industry for which no specific treatment is known. The causative agent is a virus and the disorder is communicable. Patients recovered from the disease develop blood immune bodies which will neutralize the virus in mice.

Most of the reported cases show the following manifestations: pronounced edema of the lids, conjunctiva and a semilunar fold with fluid accumulations beneath the conjunctiva over the eyeball; swelling of the lymph nodes in front of the ears, usually also beneath the chin and within the front part of the neck; severe ocular discomfort associated with excessive tearing; scrapings from the conjunctiva show only mononuclear cells, almost no polymorphonuclear cells; negative cultures for bacteria. Each patient diagnosed is rigidly isolated and careful antisepsis is observed in the examining office to avoid transmission by contaminated instruments or utensils. Aside from local treatments designed to protect the injured cornea and avoid if possible the post-infection visual opacities, some success has been reported after the injection of immune serum obtained from those patients who have recovered and whose serum contains a high titer of immune substance.

MALARIA

Malaria constitutes a major health menace of the Army and Navy in foreign land operations in malarious areas. At home the rate is at a low level; in foreign areas our record is good considering the severity of infectious conditions. Malaria is preventable by educating individual soldiers and officers to use constant precautions and to take full advantage of the accomplishments of science and sanitation in combating the mosquitoes which transmit the germs.

The Army's malaria rate for overseas units in 1942 was about 30 men out of 1,000, and in 1943 the equivalent rate was about 80. The rise in 1943 was attributed to increased war activities in malarial areas. The number of cases of the disease in any definite locality can not be published, according to the Army, because the enemy could use such figures to estimate the number of soldiers stationed in that area. The same explanation of security applies to specific information about many of the safeguards used by our troops in the campaign against malaria. It is stated that the Japanese failed to make adequate preparations against the fever, and, as a consequence, their troops are suffering much more acutely than our own.

The fight against malaria is primarily directed at destroying or repelling the mosquitoes which transmit the organism. The same repellents and larvicides work for all, but elimination of the mosquito vectors, these species which transmit the parasite from human carriers to infect other human beings, from any given area is a much more complicated task. There are many varieties of mosquito vectors, with different breeding habits, and scarcely any two areas have the same pest to fight. Some areas have more than one vector, one which breeds in the shade, another in the sun; thus elimination of the shaded areas provides larger breeding areas for the other. Some breed in stagnant water, some in pools beside running water, some in brackish water. The vector in each case must be identified before its breeding areas can be attacked.

Army epidemiologists tell us that the variety in the Solomon Islands differs from that of India, and that in turn from the vector in Burma, while China has still another. Even Italy and Albania have different varieties of mosquitoes. One fact limits the danger of infection, almost all of the numerous vectors of malaria are night feeding. In thick jungles, where there is perpetual twilight, the mosquitoes fly throughout daylight hours also. Exclusive of such areas, however, the danger of infection is generally limited to periods of night combat because of protection afforded in barracks, camps, and bivouacs.

There has been made available to troops, through collaboration of the U. S. Department of Agriculture, the

Army, and the U. S. Public Health Service, a repellent which, even under strenuous combat conditions, is effective for four hours. This repellent, designated as Formula 612, is colorless and odorless, non-irritating, and does not damage clothing; a two-ounce bottle contains enough for one man's use for one month. Better mosquito bars have been developed, and the much publicized "health bombs" can be depended upon to destroy all insect life in a space of 150,000 cubic feet. The contents are a· refrigerating chemical known as "freon" which boils at 40 degrees, combined with pyrethrium and sesame oil.

The difficulty in protecting troops against this disease lies primarily in the fact that each man must take care of himself. Under combat conditions the men sometimes fail to use the devices at their disposal for mosquito elimination. Consequently "suppressors" are administered to all troops at regular intervals. These drugs serve to keep the disease in a dormant phase. During rest periods, suppressent drugs are suspended in order to discover and treat such cases of malaria as may have been contracted. However, if proper precautions are taken, suppressent drugs are not necessary, it has been stated by the Surgeon General's Office.

SURGERY

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GENERAL

The literature for the year 1943 has been concerned largely with the solution of problems that benefit the war effort. Much of the investigative work is being sponsored in various institutions and teaching hospitals by the Committee on Medical Research of the Office of Scientific Research and Development. This governmental organization is made up of men of great experience in different branches of medical science, and it is a combination of an administrative and a research staff whose object is to coordinate research. Working committees are formed of groups of investigators in each subject, so that separated workers can be informed of the investigations of others and the researches thus can be coordinated. Besides the practical problems of war, some fundamental research also is being carried on, both in civilian and in military institutions. Surgical research for the armed forces has concerned itself chiefly with the problems of wounds, burns, fractures, infection of damaged tissues, traumatic shock, and brain and peripheral nerve injuries.

CHEMOTHERAPY OF WAR WOUNDS AND BURNS WITH THE SULFONAMIDE DRUGS

The true value of the sulfonamides in the prophylaxis of wound infection has not yet been settled. It is evident by now, however, that these drugs do not accomplish the expected prevention of infection in traumatic wounds, and it is wrong to assume that the local application of a sulfonamide can make up for imperfections in the surgical procedure. It has been shown that sulfonamides have not changed materially the bacterial flora of wounds; on the other hand experienced observers feel that wound intoxication has been for the most part delayed, and when infection does appear it is, in the majority of cases, delimited to the area of the wound. What these drugs have accomplished then, when applied locally in wounds with or without subsequent doses by mouth, is the reduction to a minimum of constitutional symptoms and of general sepsis. Because of this their continued widespread use in military and in civilian wounds appears to be justified.

Indiscriminate use of the sulfonamides is not without danger, and these facts summarize our present knowledge: 1. Chemotherapy can not supersede adequate surgery; 2. The more soluble drugs must be applied with caution to extensive raw surfaces as they are rapidly absorbed and dangerous concentrations in the blood may ensue; 3. Anuria may follow, especially when fluids are restricted; 4. Nerve tissue can be damaged, so that use of these drugs in wounds involving nerves must be judicious.

On the other hand, as regards the body cavities, the head, the chest, and the abdomen, there is some evidence that the establishment of infection is lessened with the use of the sulfonamides. That the sulfa drugs have proven of definite value in the treatment of established meningitis, empyema, and peritonitis is now well recognized. Several new "sulfa" drugs have appeared in the last year, and they are being evaluated by trained observers.

ANTIBIOTICS AND SURGICAL INFECTIONS

Within the past few years some 30-odd antibiotic substances have been isolated from various groups of micro-organisms; of this number only four so far have found practical application or show promise of such application, because of their low toxicity to animals and their in vivo activity against pathogenic bacteria. These are: 1. pyocyanase, which is being studied and re-evaluated; 2. tyrothricin, which has become recognized as an agent with certain definite potentialities, but which is restricted for local use; 3. streptothricin, a derivative of the actinomycetes, which is active not only against certain gram-positive but also gram-negative bacteria; and 4. penicillin.

PENICILLIN

Penicillin is prepared from a mold belonging to the family of the common bread mold, Penicillium notatum, and the purified product in therapeutic concentrations has the combined advantages of low toxicity and extraordinarily high antibacterial action against the gram positive bacteria. At the same time it is uninhibited by the presence of blood, pus, peptones, or large numbers of micro-organisms. Clinical trial of penicillin leaves no doubt of its potential value. It is effective in dilutions many times greater than the sulfonamides. The possible uses of this potent substance have to be thought of in terms of the infecting organism. Pride of place goes to the Staphylococcus aureus not only because of its extreme susceptibility to penicillin but because it is far less controllable by sulfonamides than other pyogenic cocci.

That staphylococcal septicemia is curable with penicillin is well established, and for this condition more than any other it is being most urgently demanded. However, the drug does not control staphylococcal endocarditis. It is being used successfully also in osteomyelitis, and in staphylococcal infections of wounds, burns, and the eye.

Surgical intervention is necessary often in the penicillin therapy of long bones but more conservative therapy has been successful in infections of the flat bones. Hemolytic streptococcic and pneumococcic infections have been eliminated after sulfonamide therapy had failed. Improvement has been noted during periods of treatment in pulmonary actinomycotic infections. Encouraging experiences in the penicillin treatment of empyema and pulmonary suppuration due to bacteria of certain types are reported. In the immediate treatment of gunshot wounds there is prompt improvement with penicillin therapy, followed by suppuration later. The recurrence of infection is due to sequestrums or foreign bodies, and the inability of penicillin to sterilize such foci of infection. Surgical intervention is necessary in most instances. In the chronic cases of gunshot wounds dramatically successful results have been obtained by combining penicillin, effective blood transfusions, and surgical procedures. It is not yet known whether penicillin implanted locally or administered parenterally will prevent infection in acute traumatic wounds and burns. Penicillin has a powerful action on the gas gangrene group of organisms in vitro and in experimental infections in animals. However, its practical efficiency in human gas gangrene has yet to be proved.

Penicillin is rapidly excreted by the kidney, and systemic treatment demands frequently repeated doses. At the present time intramuscular route is preferable and the average dose is about 90,000 units per day, given in divided doses every four hours. The best methods of local application have yet to be devised, but solutions containing 200 units per c.c. are said to be satisfactory. The only untoward reactions attending penicillin administration are mostly those analogous to serum sickness (chills, fever, urticaria, burning pain, etc.).

General clinical use of penicillin has been limited by the small yield, the difficulties attending mass production of the substance, and the desire to provide as much as possible for the armed forces and for chemical work. As production increases this substance will be released for civilian use.

The field of bacterial antibiosis promises many new weapons for the conquest of various infectious diseases. In penicillin there is a remarkably fine beginning.

CURARE IN THE TREATMENT OF TETANUS

The ancient arrow-poison drug of the South American Indians, curare, has been used recently for the control of muscle spasm in convulsive shock therapy for dementia praecox, in anesthesia, and now in a number of patients with tetanus. Results indicate that Intocostrin (extract of unauthenticated curare) in doses of 0.008 to 0.010 gram per kilogram, given intramuscularly or intravenously, is rapidly effective in controlling the muscle spasm of tetanus, and permits patients to move about in bed, void, defecate, and breathe freely. Size of the dose, frequency, and mode of administration are determined according to the tone of the rectus abdominis muscle. The drug must be given cautiously until its pharmacology is better understood.

THE SHOCK PROBLEM

One of the most encouraging features of the work of the past two years has been a growing appreciation by investigators of the fact that there are many causes of shock and that the mechanism of the production of all types of shock is not the same. Traumatic shock is usually due to either (1) regional loss of fluid, (2) toxemia, (3) nerve impulses, or (4) various combinations of these. Crystallization of opinion regarding the effectiveness or non-effectiveness of several agents has resulted from recent work. The value of adrenal cortical extract has been investigated very thoroughly, and it is agreed by most of the workers that it is not effective in the treatment of shock. The possibility remains that cortical extract may be helpful several days after injury when "adrenal exhaustion" may have occurred.

Regarding the value of the inhalation of high concentrations of oxygen there is some difference of opinion, but most of the observers are agreed that the benefit is slight. The oxygen saturation of the arterial blood is normal in most instances of shock. In the absence of intracranial injuries, pain should be mitigated by morphine. More than half a grain in a single dose is not recommended even to the patient who is having pain. The head-down (shock) position is advisable for most patients with falling or low blood pressure. This position is not indicated for those with chest injuries, pulmonary edema, and head injuries. It is fortunate that there is a growing appreciation of the dangers of the indiscriminate use of heat in the treatment of shock. Too much heat is dangerous because it causes loss of fluid through sweating and inhibits the normal vasoconstrictive defenses of the body.

Hemorrhage should be controlled as quickly as possible, preferably either by ligating a bleeding vessel or by pressure. The use of a tourniquet on an injured extremity should be avoided whenever possible. The tourniquet should be placed as low as possible on the limb. While salt and glucose solutions are excellent for the correction of dehydration, their use does not usually result in sustained improvement in the treatment of shock. The intravenous injection of large quantities or solutions of crystalloids, such as pectin or gelatin, in the presence of gross capillary damage may result in harmful rather than beneficial effects.

The main reliance in preventing and treating shock is the use of adequate quantities of whole blood, plasma, or albumin. Unless pulmonary edema is suspected, blood or a substitute may be given as rapidly as one pint of isotonic fluid in ten minutes. If the desired effect is not obtained in 15 minutes, the dose should be repeated. Whole blood is preferable to a substitute if there has been massive hemorrhage, but plasma should be given in the meantime if delay is entailed in the use of whole blood. The initial injection of a blood substitute may be two units of reconstituted plasma or its equivalent, one unit (25 gm) of concentrated albumin. Since a significant elevation in the blood pressure usually accompanies the administration of a relatively small volume of concentrated albumin, an effort should be made to attain as adequate hemostasis as possible before the albumin is given. Since the concentrated albumin draws fluid from the tissue spaces into the blood stream, dehydrated patients must be given additional water and salt. When normal salt solution is available, the concentrated albumin may be diluted in the ratio of two units (50 gm.) to a liter of the salt solution. It seems advisable not to give more than 10 units of albumin in a 48-hour period.

THROMBIN ON SOLUBLE CELLULOSE FOR THE CONTROL OF HEMORRHAGE

The control of bleeding presents a critical problem during an operative procedure of any kind. Experimental application of thrombin by spraying the solution to stop hemorrhage from a fresh incision across the surface of liver or brain has been reported by investigators in England and the United States.

The difficulty with the use of fluid preparations to stop bleeding is that the clot which is formed in less than a second with flowing blood is apt to be washed away before it can adhere. Even an ooze may be considered as flowing blood. Although hemostasis may be secured with a cotton pledget, removal of the pledget usually causes bleeding to begin again. For clinical use, tamponing with tiny pledgets or oxidized cellulose gauze dampened with thrombin solution at bleeding points to control hemorrhage during operations on the brain has been described recently. The technique is as follows: pledgets are prepared under aseptic conditions from oxidized cellulose gauze and are kept in 70 per cent alcohol. As needed at the time of operation, they are dried and then moistened with thrombin. A bleeding point is tamponed with damp cotton, which is then sucked dry, and the thrombin-soaked pledget is quickly substituted for the cotton tampon and another piece of damp cotton is placed over it. This, in turn, is sucked dry and may be removed within a minute, even with active arterial bleeding, leaving the soluble cellulose solidly clotted. Experimental work has shown that the oxidized cellulose dissolves in tissue with practically no inflammatory reaction. Oxidized cellulose may be boiled for as long as three minutes, but with autoclaving it disintegrates.

HUMAN FIBRINOGEN IN RECONSTRUCTIVE SURGERY

Human fibrinogen, when acted upon by clotting globulin, produces a coagulum whose tensile strength is many times that of a human blood clot or of coagulated human plasma. Work on animals has proved that both bovine and human fibrinogen may be used to good advantage as a bridge for tissue regeneration. The application of this substance opens up many possible uses in reconstructive surgery, especially in neurosurgery and tendon repair work, and is being studied in military hospitals.

NONSUTURE ARTERIAL ANASTOMOSIS

The principal indication for amputation of an extremity is irreparable interference with blood supply. There is urgent need for a simple quick method of anastomosing vessels to maintain arterial blood supply following military and other injuries in which major arteries are severed. Such a procedure using a nonsuture method of blood vessel anastomosis with vitallium prosthesis has been developed, and promises to fill the bill. The method uses vitallium tubes 4 to 7 m.n. in diameter, and the great saphenous vein as a graft up to 40 c.m. in length, in conjunction with local and systemic sulfonamides to combat infection, and with anticoagulants to prevent thrombosis. Use of preserved vein grafts is being investigated as a means of facilitating the operation. The technic is as follows: the distal end of the vein is identified, since it will be joined to the proxinal end of the artery allowing blood to flow through the graft in the direction of the valves. The vein is inserted through the inside of the vitallium tube; the ends of the vein are everted over the tube and the artery is drawn over each end and held by a ligature. In this way the flowing blood contacts only an intimallined tube. By this method it is possible to bridge a gap of any length, the limiting factor being the length of the vein transplant.

IMMERSION FOOT

"Immersion Foot" is a term applied to a condition produced by long immersion of the feet in cold water, usually associated with immobility of the limbs and constriction by boots or other clothing. This condition, a result of cold and the neural and vascular disturbances produced by cold, occurs frequently among those who have been adrift in boats or rafts after torpedoing at sea. During exposure, which may last for periods up to 14 days, the immersed limbs soon become numb, the hands become clumsy, and some patients describe walking "as if on cotton wool." Pain, tingling, and even itching are unusual; cramps sometimes occur, usually in the calves. The skin, red at first, is later pale, "sickly yellow," mottled, blue, or black; at sea-freezing temperatures it may remain livid red.

After rescue three stages are described, the prehyperemic, then hyperemic, and the post-hyperemic. The prehyperemic stage lasts for a few hours to several days. The extremities remain cold, somewhat swollen, discolored, and numb, with fairly extensive "glove or sock" anesthesia. Peripheral arteries may be pulseless for some hours and remain so in cases going on to gangrene. A hyperemic stage follows and may last from six to ten weeks. Typical observations in this stage include vascular disturbances of the skin involving temperature differentials; increase in swelling, especially if the extremities have been warmed; sensory disturbances such as tingling, usually of "glove" or "sock" distribution; motor disturbances; absence of sweating, and blisters, ulcers and gangrene. The post-hyperemic stage lasts for weeks or months after the hyperemia has subsided. Except for fresh blisters or infections, the extremities are no longer unduly hot in a normal environment. Indeed for months after rescue there may be a cold sensitive-state, giving rise to the Raynaud phenomenon or to coldness which may last for hours after return from cold to a warm environment.

From the histories obtained, the following factors influence the occurrence and severity of this condition. Time of exposure and temperature of water; footwear (this affords some protection for short exposure, but, because of constriction, is harmful for long exposure, causing swelling of the feet and impairment of circulation); immobility, since men who kept moving suffered less than those who sat still; body cooling, as from wind, total immersion, repeated soakings or inadequate clothing, which reduces the peripheral circulation; seasickness and starvation (may be contributory agents); age—men over 40 and youths under 17 died from cold sooner than those of intermediate ages.

The recommendations for treatment include the following: first aid and hospitalization should be directed to avoidance of trauma, slow warming of affected limbs, strict asepsis, and supportive treatment. For prophylaxis it is suggested that boots and any constricting footwear, if wet should be removed and oil or heavy grease should be generously applied while the seaman is exposed. On rescue, the patients should be lifted if possible and not permitted to walk. Massage should not be attempted. The feet should be exposed and elevated, and the patient given supportive treatment. Dry refrigeration is said to help reduce tissue loss to a minimum. In the hospitals strict asepsis should be maintained, and the feet should be cooled, if possible, during the hyperemic period.

CHEMOTHERAPY IN HYPERTHYROIDISM

Some years ago it was observed that the specific metabolism of the thyroid was interfered with when sulfur-containing compounds, such as the thiocyanates and the sulfonamides, were given over a long period of time. Now two sulfur compounds, thiourea and thiouracil, have been found to be beneficial in cases of thyrotoxicosis. Their action is unknown, but is believed to be interference with the synthesis of thyroid hormone. A favorable feature of the therapy is its reversibility. The degree of activity of the thyroid can be raised or depressed according to the given dosage of the drugs. Thiourea and thiouracil have been given in cases of toxic goitre with striking success, and these drugs promise to be valuable adjuncts to surgery of the thyroid gland. However, extensive use of the drugs must await greater knowledge of their hemotopoietic action, if any, and of possible non-thyroid effects following prolonged treatment. Another agent, radioactive iodide, also is now under trial as an inhibitor of thyroid hyperplasia, and in the hands of some appears to offer great promise.

JEJUNAL GRAFTS TO THE STOMACH

Fresh light has been thrown on the pathogenesis and treatment of gastroduodenal ulcer. It has been demonstrated in dogs that a pedicle graft of jejumum implanted in the stomach wall produces profound effects on the gastric secretion. These effects consist in a reduction of the fasting free acidity and a diminution, or actual reversal, of the normal response of the gastric acidity to such secretory stimulants as histamine and alcohol. Such effects are not produced by the ordinary gastrojejunostomy but appear promptly when the bowel about the stoma is converted to a pedicle graft and the normal continuity of the tract is reestablished. Grafts from the colon or ileum are without such action, while those taken from the duodenum are effective but considerably less so than jejunal implants.

The presence of the factor responsible can be demonstrated in saline washings of isolated jejunal loops, and accumulated evidence indicates that its effects are executed by actual inhibition of acid secretion, at least so far as the response to histamine is concerned, rather than by neutralization. The effects of the pedicle jejunal grafts are lost in the presence of a gastroenterostomy. The operation has been applied to several patients with duodenal or marginal ulcer with excellent immediate clinical results in all and with gastric secretory changes in those studied for a sufficient period after operation. If subsequent work confirms these findings, this may constitute a new approach to the surgical treatment of peptic ulcer.

UNDERWATER BLAST

This term denotes a syndrome of intra-abdominal intestinal injury resulting from underwater explosions with compression of the abdominal parietes against resistance to the waters set in motion simultaneously with the entrance of sea water into the bowel through the unprotected anus. The accident occurs usually in a man who finds himself in the sea after abandoning ship following a naval engagement; he is within a radius of 100 to 300 yards when one or more depth charges explode under water; forceful water currents are generated, producing external abdominal compression simultaneously with the entrance of sea water into the anus. Either immediately following the blast or within a half hour several expulsive bowel movements take place, with the passage of fluid stools accompanied by violent cramps in the attempt of the bowel to rid itself of the bulk of the strongly irritating hypertonic salt water. The pains, with the accompanying bowel movements, may recur over a period of several hours.

Profound shock may ensue, and the man may float aimlessly about, sustained by his life-jacket, in a stuporous state with occasional lucid intervals. If rescued during this period, he may show many signs of peritoneal irritation which would ordinarily indicate laparotomy to close a perforation of the bowel. Experience has proved, however, that extreme conservatism gives the patients a better chance of recovery; several exploratory laparotomies in men showing this picture have revealed only minute, sealed perforations of the bowel with areas of petechial hemorrhage, although others have disclosed actual tears in the lower colon. Often, the patients did not do well following these operations, and surgeons having had experience with such cases were inclined to delay performing the operation unless very pronounced signs of intestinal rupture were present.

The conservative treatment of these cases consists of continuous indwelling intestinal suction drainage accompanied by the administration of intravenous infusions and sedation with morphine. Within three or four days this regime generally has resulted in marked clinical improvement, and eventual recovery ensues. Occasional episodes of abdominal pain, or of symptoms suggesting intermittent intestinal obstruction, sometimes occurred after the injured man had apparently recovered.

Since the predominating pathologic process in this type of injury consists of multiple small and large areas of subserosal and mucosal hemorrhages, the complications which may appear in the more severe cases may be readily understood. One case of gross bleeding into the bowel was seen when an area of intramural hemorrhage became eroded. In another case, adhesions which had formed between adjacent bowel loops as a result of sebserosal hemorrhage and irritation formed a band which produced episodes of recurrent intestinal obstruction in the patient.

The compressive force of the blast wave in water, by acting on the soft abdominal wall, may also produce other surprising injuries. In an advanced base hospital, one case of acute traumatic inguinal hernia was observed, and there were several instances of diaphragmatic hernia in which the sudden pressure had apparently pushed part of the abdominal contents through a weak spot in the diaphragm into the thoracic cavity. It is easily understandable that, when a sudden rise of pressure occurs around a human body immersed in water, the solid organs, being relatively incompressible, will be forced into any regions containing air or gas.

Those who recall the traumatic mechanism of bomb blast (THE AMERICAN YEAR BOOK, 1943) in which the compression wave of air causes the walls of the thorax to beat against the lungs hard enough to produce hemorrhage, will wonder why a compression wave in water should not produce the same effect. The absence of lung injury probably is due to the shielding effect of the heavy kapok life-jackets worn by all the victims who survived long enough to be rescued and observed. After-effects of hydraulic abdominal concussion may range all the way from no symptoms at all to the complete picture of healed ulcerative colitis.

DENTISTRY

By Houghton Holliday
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DENTISTRY AND THE WAR

A review of the activities of dentistry for the year 1943 resolves itself into an account of dentistry's participation in the war. Those of the profession were fully aware of the demands that would be made upon them, and even during the pre-Pearl Harbor days had set up the machinery for effective cooperation with the Government. When the physical shortcomings among the inducted selectees became apparent, it was at once evident that there would be considerable difficulty in securing full medical and dental service for the Army and Navy without creating a serious shortage for the civilian population. The Government established a Procurement and Assignment Service to work with the professions to determine who among physicians and dentists should be declared available for the armed forces and who should remain to care for the civilians.

The rapid induction of selectees brought forth the astounding fact that large numbers were rejected because of dental defects. As there was no practical way to correct this situation while the men were civilians, the previous low dental requirements were eliminated, and the dental corps undertook to provide troops with all necessary dental treatment from a health and functional standpoint prior to their departure from the home station. This policy tremendously enlarged the problem of the dental corps and necessitated a rapid expanding of the corps from about 700 officers at the time of Pearl Harbor to about 17,000 at present. If the needs of the armed forces are to be fully met, another 5,000 are needed.

The Procurement and Assignment Committee has functioned very well to date but now appears to have reached the point of diminishing returns in its efforts to provide additional professional material for either the medical or dental corps. All dentists have been classified as to their availability, ranging from male dentists under 45 years of age, physically and otherwise qualified, to those working in connection with the training of dentists and those located in communities where their services could not be spared, to those who because of age or physical disability can not be used in the military program.

Though more dental officers must be secured, the further withdrawal of dentists from civilian practice presents a difficult problem. The supply of dentists in the United States—about 70,000—was not adequate in peace time to meet the civilian requirements. Now with the unprecedented demands of the Army and Navy, it will soon be impossible for civilians to receive anything beyond emergency service. This situation results not only from the activities of the Procurement and Assignment Service but from the large number of dentists who enlisted in the early days of the war, and from the fact that there have been extensive shifts in population due to the rapid expansion of war industries.

THE HYSER PLAN

A proposal known as the Hyser Plan, claiming to assure mass dental health service for the lower income groups, received considerable publicity for a few weeks because of the apparent need for dental service indicated by the large number of selectees who were rejected in the early days of the war because of dental defects. The plan came to the attention of the public and the dental profession in general through an article in *Time Magazine* (Feb. 22). The author of the plan contended that because of the national emergency dental defects should be dealt with separately, and that vast economies of time and money could be effected by treating large numbers of patients according to belt line procedures. While the plan received considerable publicity as a result of comment in the press, it appears to be entirely fantastic and unworkable and served only to retard efforts to meet a difficult social situation.

THE WAGNER BILL

The Wagner Bill (S. 1161) introduced into the 1943 Congress embodies a carefully thought out plan of health service conforming to the political doctrine of the present Administration. Very little specific reference is made to dentistry in the bill, and it appears that changes will be necessary if a sound national program is to result.

INDUSTRIAL DENTISTRY

Dental service in the industries is again attracting attention. Some two decades ago it was recognized that more attention to the dental needs of the industrial worker would not only add to the welfare of the individual but would reduce absence from work resulting from immediate dental ailments. Many industries established dental clinics primarily for directive dental service. However, some operated on unethical standards and infringed upon the prerogatives of private practice, with the result that a great deal of opposition to such clinics arose. The American Dental Association made a study of the situation and adopted a minimum standard for dental service in industry for the guidance of industrial clinics. In general the industry is expected to have a well organized service, with a competent staff and adequate facilities to care for emergency treatment of employees suffering from occupational injuries or presenting oral manifestations of occupational disease, such as metal poisoning. Instruction and advice in oral health matters should be available to all employees.

The increasing health hazards incident to industry's all-out war effort has revived interest in this subject. It has been shown many times that dental disease is one of the most common sources of interference with industrial production. While it is the economic factor that is responsible for the renewed interest in the industrial side of mouth health at this time, this interest does provide an opportunity to educate a large number in the importance of dental care as well as to contribute to the immediate protection of the health of the nation.

DENTAL SUPPLIES AND EQUIPMENT

Under peace time conditions imports from countries now at war served to supply as much as 40 per cent of the needs of dentists for certain types of dental supplies. The war has cut off all imports, and the manufacturers in this country have found difficulty in stepping up their production sufficiently to compensate for this shortage. Also, large quantities of these materials are being used for the greatly expanded Army and Navy dental health programs and are being sent to our allies under International Aid policies. Production and distribution of dental equipment is under rigid control. The sale or delivery of any new dental units or chairs is prohibited except to or for the Army and Navy, on lend-lease agreements with other governments, or on purchase orders approved by the Board of Economic Welfare. For the most part Army and Navy dental clinics are well equipped, enabling them to function fully and efficiently, and the civilian dentists are able to get along by exercising extreme care.

DENTAL SCHOOLS

The dental schools of the United States have met the new obligations imposed upon them by the war. The 39 schools operate on an accelerated program whereby the usual four-year professional course is completed in three calendar years by continuing classes through the summer months. The Kellogg Foundation and later the Government came to the assistance of students who formerly relied upon vacation employment to finance all or part of their schooling. The Kellogg Foundation made a grant of $10,000 to each of the schools to be used as scholarships or loans at the discretion of the institution. The Government also provided funds to be loaned to needy students.

EDUCATION PROBLEMS IN RELATION TO WAR SERVICE

In the early stages of the accelerated program the schools found that they were constantly threatened with a loss of their students through the operation of the Selective Service Act. For several months it appeared that the operation of this act would make it necessary to close the dental schools, because very few men were willing to have their professional training interrupted or terminated by an indefinite period of military activity. Fortunately it was realized that, if the supply of dental students who would normally be graduated into the profession were reduced through their induction into service in a non-professional capacity, there would be an increasing reduction of dentists available for military service as well as an aggravation of the national shortage. This resulted in a recommendation from Selective Service headquarters that the supply of dentists not only be maintained but encouraged to grow, and that students who gave reasonable promise of becoming qualified dentists be deferred until the completion of their professional training.

This problem was still further relieved by the fact that dental students were permitted to apply for reserve commissions as ensigns in the Navy and as second lieutenants in the Medical Administrative Corps of the Army. Starting in July, 1943, the Government entered still further into the field of dental education by contracting with the various schools to provide training for students to be assigned to them by the Army and the Navy. Both Army and Navy are represented in each professional school, the students being classified as privates in the Army and apprentice seamen in the Navy. The students receive the base pay for their rank plus a maintenance allowance and tuition, and the loan of instruments and books. In addition to the usual professional curriculum there are classes in military matters, drill periods, and calisthenics. Orders are issued upon graduation assigning the men to Army or Navy units as first Lieutenants in the Dental Corps of the Army or as lieutenants (jg) in the Navy. Under the accelerated program the schools graduated two classes in 1943, releasing some 3,600 potential officers for the Army and the Navy.

The operation of the schools on the full year basis has thrown a very heavy burden upon the teaching staffs, depleted by the withdrawal of teachers to enter the armed services. Some schools found it difficult to maintain their regular curricula because of these staff losses, and dental post-graduate instruction and research have also been affected by the situation.

Post-graduate instruction has been set aside for the most part because of a lack of applicants and because of the inability of the staffs to take on additional teaching loads. Some of the schools have conducted intensive courses in special fields for medical and dental officers assigned to the institutions for such training. Many of the schools are now making plans to provide rehabilitation courses to prepare dentists to return to general practice following their restricted service in the military departments.

COUNCIL ON DENTAL EDUCATION

Many changes have taken place in dental education since the original accrediting body made its survey, and a re-appraisal of schools became desirable. Plans for the survey have been in the making for several years, and it seemed best to go through with the accrediting procedure in spite of the difficulties incident to the war. The Council on Dental Education, the new accrediting agency for dental schools in the United States, composed of representatives of the American Dental Association, the American Association of Dental Schools, and the Association of Dental Examiners, and with Dr. Harlan H. Horner, former Assistant Commissioner for Higher Education for the State of New York as secretary, has completed its inspection of the 39 dental schools and is now engaged in studying and appraising the documentary data already collected. Through the employment of criteria covering all phases of organization, administration, teaching, and research the schools will be ranked from one to 39. Full information will be furnished each school relative to the Council findings, and an opportunity will be given certain schools to make changes and adjustments permitting them to qualify for approval. The aim of the Council is to encourage and aid schools as well as to be helpful to dental education.

The series of statistical tables issued annually by the Council on Dental Education demonstrate several interesting trends in dental education and licensure. The 1943 figures, based on the year 1942, show a total enrollment of 8,847 undergraduates in the schools of this country. This is an increase of 492 over the previous year and is the largest in the last 16 years. The largest enrollment in a single school is 561 and the lowest 64. The average in the 39 dental schools is 227. The table on the pre-dental college training of the 8,847 undergraduates in dentistry shows that 4,338 had two years of pre-professional college work, 1,740 had three years, 366 had four years without a degree, 2,298 had a bachelor's degree, and 102 had other degrees. The table on geographical distribution shows students from every state in the nation and 77 from United States possessions, 37 from Canada, and 57 from other foreign countries. The largest state representation is 1,851 from New York and the smallest four from Nevada.

RESEARCH ON EFFECT OF FLUORIDES ON TOOTH DECAY

Among the research projects which were actively carried on during the year, probably the most outstanding deals with the effect of fluorides upon tooth decay. In spite of the increasing use of various methods of mouth care and the attention now given to dietary habits and vitamin therapy, dental decay is more prevalent than ever. However, a striking example of naturally occurring resistance to decay is found in population groups using drinking water containing fluorides. There appears to be a direct combination of the fluorine and the calcium phosphate of tooth enamel which results in an enamel with a reduced solubility in organic acids.

One of the most fascinating chapters in research into the basic causes of dental disease is that which led to the discovery in 1931 by Smith and others that drinking water containing fluorine is the cause of the disfiguring mottled enamel which is found among users of water containing a relatively high percentage of fluorine (3 parts or more per million). Intensive study by McKay, Smith and Tantz led to the conclusion that the causative factor must be present in the water supply of those communities where the condition was prevalent. A thorough study of dental conditions among the inhabitants of St. David, Ariz., where the water contained from 3.8 to 7 mg. of fluorine per liter, showed that every person reared in that vicinity had mottled permanent teeth. Rats given water concentrated by evaporation developed changes similar to those found in the residents of the endemic areas. Later, diets containing sodium fluoride produced similar results.

On the other hand it has now been definitely shown that school children using domestic water containing as little as one part per million of fluorine have but one half to a third as much dental decay as comparable groups using water that contains no fluoride. Studies with adults who had used water containing one part per million of fluorides during their entire life, and with those using such water only after the calcification of the permanent teeth, indicated that fluoride has an inhibitory effect on dental caries after the calcification of the permanent teeth. The amount of fluorine necessary to stop dental disease is not enough to cause the disfiguring mottled enamel that is found among those using water with a higher fluorine content, and it appears that mass control of dental decay may become a distinct possibility. If it is found that other aspects of public health are not threatened thereby, it should be a comparatively simple and economical procedure to add the small amount of fluorine to the fluorine free water supplies to produce this desired result. However, the range between a fluorine concentration which inhibits decay and that which results in mottled enamel and structurally weak teeth is so small that it would be extremely hazardous to institute such a program without exercising the utmost caution.

VITAL STATISTICS

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VITAL STATISTICS AND THE WAR

The maintenance of high standards in state and national vital statistics has been especially important throughout the year 1943 because of the war effort. Conditions of the war period have demanded that vital statistics publications be reshaped in such a way as to satisfy the rapidly shifting needs of the times. It was particularly necessary to create and make available extensive mortality analyses owing to the enhanced possibility of epidemics, the acceleration of the employment of women, children, and elderly people, the increased strain on health resulting from longer working hours and congested housing conditions, and the reduction of available medical care. To meet the need for current information by cause-of-death, a new series of monthly reports was instituted—the "Current Mortality Analysis."

Owing to these rapidly changing conditions, the character of the national output of vital statistics has changed somewhat; practically all publications of birth and death data by place of occurrence have been dropped as well as tabulation categories not considered to be necessary for war or essential civilian purposes. In spite of these changes the output of vital statistics has been maintained at a relatively high quality level.

PUBLICATIONS

The following regular series have been issued in the year 1943: *Vital Statistics of the United States, Part I and Part II, Weekly Mortality Index, The Registrar, Monthly Vital Statistics Bulletin, Annual and Quarterly Summaries of Motor Vehicle Accident Fatalities*, "Current Mortality Analysis," and Volumes 17 and 18 of *Vital Statistics—Special Reports Series*.

In addition, a supplementary volume (Part III) of the *Vital Statistics of the United States* was issued, giving birth and death rates and data for counties and cities in the United States tabulated by place of residence for the years 1939 and 1940. A special volume of *Vital Statistics Rates in the United States, 1900-1940* was also published.

BIRTH REGISTRATION TEST RESULTS

In conjunction with the population census, the first nation-wide test of the completeness of birth registration in the United States was made. This was a large undertaking and required the close cooperation and sustained efforts of state and local health departments and the Bureau of the Census, and of the Federal Work Projects Administration, which provided a large share of the necessary funds and personnel. The first results of the test have been published in the *Vital Statistics—Special Reports,* Vol. 17, No. 18. A state summary of the results of this test are in Table E.

MARRIAGE AND DIVORCE STATISTICS

Copies of original marriage and divorce records were collected on a national basis by the Bureau of the Census for the years 1939 and 1940. Marriage transcripts were received from 28 states having centralized files, and divorce transcripts were received from 12 states with centralized records. The discontinuance of funds on July 1, 1942 and changes of program necessitated by the war curtailed the publications originally planned. However, a number of reports have been issued in the *Vital Statistics—Special Reports* series, which give marriage data by age of bride and groom, previous marital status, and race, and divorce data by cause of divorce. In addition to the information based on transcripts, marriage and divorce rates for the entire country were published for the years 1937-1940, inclusive, on the basis of questionnaires sent to each state having a central file and to each county in states not having centralized records.

MORTALITY SUMMARIES

Volume 16 of the *Vital Statistics—Special Reports* series was completed during 1943. This volume, including data for the period from 1900 to 1943, contains two types of reports, the first a set of special causes of death and the second a group of age summaries for the infant, the pre-school child, the youth, young adults, middle-aged adults, and old age.

COMPARABILITY OF MORTALITY STATISTICS THROUGH THE REVISIONS OF THE INTERNATIONAL LIST OF CAUSES OF DEATH

Each decennial revision of the International List of Causes of Death has introduced a certain amount of incomparability into mortality statistics. The extent of these changes was never before fully determined, but during the census period it was possible to conduct a special study of the classification changes caused by the revisions.

The investigation of classification changes was carried along two lines. One of these was to trace each of the inclusions in the International List through the five revisions of the manual. While it was not possible to obtain a quantitative measure of the effects of the transfer of various terms or inclusions to another International List title, this study was valuable in showing the qualitative changes in the International List. Also, the study gives a precise summary of the evolutionary changes in the International List which is not only of historical interest but will be of great value in the future revision of the International List.

The second study relates to the comparison of cause-of-death assignments by the 1929 and 1938 revisions of the International List. All of the death transcripts for the year 1940 were classified according to current methods. The 1938 revision of the List and the 1938 edition of the *Joint-Cause Manual* were used in conjunction with the sixth edition (1940) of the *Instruction Manual for Coding Causes of Death.* Then, for comparison, the same transcripts were again classified, using the methods which had immediately preceded the introduction of the 1938 revision of the International List. These were the 1929 revision of the List, the 1933 edition of the *Manual of Joint Causes,* and the *Instruction Manual* for 1937.

By the use of this approach, classification changes were studied apart from any other factors that might influence mortality statistics. The results of the study provide an accurate index of the discontinuities arising from the 1938 revision of the International List. This report will be published soon in the *Vital Statistics—Special Reports.*

CURRENT MORTALITY ANALYSIS

As a part of its wartime program the United States Bureau of the Census has instituted a new series of monthly reports on mortality designed to provide public health officials and persons concerned with the efficient utilization of the nation's manpower with statistics on a current basis. The material in this report, called "Current Mortality Analysis" supplies an up-to-date index of the health of the country during the war. The vital statistics of diseases which are epidemic in character, or which reflect changes in living conditions, nutrition, and medical care are given the most attention.

The time schedule for the publication of the "Current Mortality Analysis," based upon the tabulation of a ten per cent sample of death records, is planned so that the report can be in the hands of the officials who make use of it within a month from the time the transcripts were required to be mailed from the state offices, or, in other words, within about eight weeks from the close of the month in which the deaths occurred. This represents the first use of sampling to collect vital statistics on a large scale in the United States.

1942 U. S. SUMMARY

The year 1942 was noteworthy as a war year during which the birth rate was rising and the death rate falling. The birth rate of 21 per 1,000 population for 1942 was the highest recorded for the birth-registration

TABLE A

BIRTH, DEATH, MATERNAL DEATH, AND INFANT DEATH RATES, AND STILLBIRTH RATIOS: REGISTRATION STATES, FOR SPECIFIED YEARS

Year	Rate (Number per 1,000 Estimated Population)		Rate (Number per 1,000 Live Births)		Stillbirths per 1,000 Live Births
	Birth	Death	Maternal Death	Infant Death	
1942	21.0	10.4	2.6	40.4	28.2
1941	18.9	10.5	3.2	45.3	29.9
1940	17.9	10.7	3.8	47.0	31.3
1939	17.3	10.6	4.0	48.0	32.0
1938	17.6	10.6	4.4	51.0	32.1
1937	17.1	11.3	4.9	54.4	33.4
1936	16.7	11.6	5.7	57.1	34.4
1935	16.9	10.9	5.8	55.7	35.8
1934	17.2	11.1	5.9	60.1	36.2
1933	16.6	10.7	6.2	58.1	37.0
1932	17.4	10.9	6.3	57.6	37.8
1931	18.0	11.1	6.6	61.6	38.2
1930	18.9	11.3	6.7	64.6	39.2
1925	21.3	11.7	6.5	71.7	38.1
1920	23.7	13.0	8.0	85.8	...
1915	25.0	13.2	6.1	99.9	...
1910	...	14.7	...	...	...
1905	...	15.9	...	...	...
1900	...	17.2	...	...	...

TABLE B

NUMBER OF BIRTHS, DEATHS, MATERNAL DEATHS, AND INFANT DEATHS, AND RATES, AND STILLBIRTHS AND RATIOS, BY RACE: REGISTRATION STATES, FOR SPECIFIED YEARS

Subject	1942		1941		1940		1930		1920		1910	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Births:												
Total	2,208,996	21.0	2,513,427	18.9	2,360,399	17.9	2,203,958	18.9	1,508,874	23.7	....	....
White	2,486,934	20.7	2,204,903	18.5	2,067,953	17.5	1,953,163	18.6	1,395,523	23.5	....	....
Negro	307,777	23.3	294,554	22.6	278,869	21.7	239,275	21.6	103,796	27.0	....	....
Other races	14,285		13,970		13,577		11,520		9,555		....	....
Deaths:												
Total	1,385,187	10.4	1,397,642	10.5	1,417,269	10.7	1,327,240	11.3	1,118,070	13.0	696,856	14.7
White	1,209,944	10.1	1,213,511	10.2	1,231,223	10.4	1,136,884	10.8	990,859	12.6	669,475	14.5
Negro	168,244	12.7	176,729	13.5	178,743	13.8	182,021	16.3	121,956	17.7	24,908	21.7
Other races	6,999		7,402		7,303		8,335		5,255		2,473	
Maternal deaths:												
Total	7,267	2.6	7,956	3.2	8,876	3.8	14,836	6.7	12,058	8.0	....	....
White	5,515	2.2	5,864	2.7	6,614	3.2	11,892	6.1	10,606	7.6	....	....
Negro	1,690	5.5	2,033	6.9	2,180	7.8	2,944	11.7	1,452	12.8	....	....
Other races	62	4.3	59	4.2	82	6.0					....	....
Infant deaths:												
Total	113,492	40.4	113,949	45.3	110,984	47.0	142,413	64.6	129,531	85.8	....	....
White	92,678	37.3	90,874	41.2	89,406	43.2	117,352	60.1	114,603	82.1	....	....
Negro	19,756	64.2	21,834	74.1	20,342	72.9	23,812	99.5	14,072	135.6	....	....
Other races	1,058	74.1	1,241	88.8	1,236	91.0	1,249	108.4	856	89.6	....	....
Stillbirths:												
Total	79,174	28.2	75,133	29.9	73,802	31.3	86,466	39.2	....	....	....	....
White	63,301	25.5	58,467	26.5	57,220	27.7	66,440	34.0	....	....	....	....
Negro	15,538	50.5	16,318	55.4	16,236	58.2	19,743	82.5	....	....	....	....
Other races	336	23.5	348	24.9	346	25.5	283	24.6	....	....	....	....

Note.—Birth and death rates per 1,000 estimated population; maternal death and infant death rates and stillbirth ratios per 1,000 live births.

states since 1925 and was a continuation of the upward movement evident in the birth rate since 1933. The crude death rate of 10.4 per 1,000 population in 1942 was ·1 per cent lower than the rate of 10.5 per cent for 1941. The infant mortality rate for 1942 was 40.4 per 1,000 live births, an improvement of 10.8 per cent over the rate of 45.3 for 1941. The maternal mortality rate also improved markedly, dropping 19 per cent from a rate of 3.2 per 1,000 live births in 1941 to 2.6 in 1942. The most outstanding reduction in any of the death rates by cause for 1942 was that recorded for motor vehicle accidents. The death rate for this cause declined 29.3 per cent from 30 per 100,000 population in 1941 to 21.2 in 1942.

TABLE C

NUMBER OF DEATHS BY AGE, AND BY RACE AND SEX FOR 1942, AND DEATH RATES: DEATH-REGISTRATION STATES, FOR SPECIFIED YEARS

Year	Number of Deaths							
	Total[1]	Under 1 Year[2]	1–4 Years	5–14 Years	15–24 Years	25–44 Years	45–64 Years	65 Years and Over
1942	1,385,187	113,492	21,854	19,805	45,153	151,366	396,501	635,286
White	1,209,944	92,678	17,154	16,009	33,536	113,467	340,995	594,977
Male	685,468	53,252	9,382	9,796	20,664	66,419	211,124	313,997
Female	524,476	39,426	7,772	6,213	12,872	47,048	129,871	280,980
Negro	168,244	19,756	4,250	3,539	11,025	36,755	53,758	38,572
Male	90,430	10,992	2,257	1,951	5,371	18,948	29,592	20,970
Female	77,814	8,764	1,993	1,588	5,654	17,807	24,166	17,602
Other	6,999	1,058	450	257	592	1,144	1,748	1,737
Male	4,556	585	241	132	299	778	1,300	1,211
Female	2,443	473	209	125	293	366	448	526
1941	1,397,642	113,949	24,302	21,869	48,110	156,452	396,051	635,681
1940	1,417,269	110,984	24,678	23,253	48,999	160,633	399,774	647,246
1935	1,392,752	120,138	36,807	36,690	63,296	192,968	384,207	557,346
1930	1,327,240	143,201	49,096	40,108	71,251	196,976	348,661	476,104
1925	1,191,809	158,080	54,937	40,074	67,419	180,368	286,711	402,561
1920	1,118,070	170,911	72,099	45,581	72,662	193,485	239,024	322,702
1915	815,500	134,384	48,137	26,957	45,791	132,482	183,201	243,517
1910	696,856	135,020	54,030	25,592	41,206	113,105	140,796	186,414
1905	345,863	66,894	26,296	13,630	21,333	57,685	68,935	90,412
1900	343,217	71,117	32,412	14,665	21,759	56,591	62,391	83,094
	Death Rate (Number per 1,000 Estimated Population)							
1942	10.4	48.0	2.4	0.9	1.9	3.8	14.6	67.2
1941	10.5	52.3	2.8	1.0	2.0	3.9	14.8	68.9
1940	10.7	54.8	2.9	1.0	2.0	4.0	15.2	71.7
1935	10.9	60.9	4.4	1.5	2.7	5.1	16.2	71.9
1930	11.3	69.0	5.6	1.7	3.3	5.7	16.8	73.7
1925	11.7	75.4	6.4	2.0	3.8	5.9	16.6	76.5
1920	13.0	92.3	9.9	2.6	4.9	7.4	16.6	77.5
1915	13.2	102.4	9.2	2.3	4.1	6.9	17.8	79.9
1910	14.7	131.8	14.0	2.9	4.5	7.6	18.4	80.6
1905	15.9	141.2	15.0	3.4	5.2	8.5	19.7	81.7
1900	17.2	162.4	19.8	3.9	5.9	9.1	19.8	82.3

[1] Includes "unknown" and ages not stated.

[2] The number of infant deaths shown are for death-registration States.

TABLE D

DEATH RATES FOR SELECTED CAUSES: REGISTRATION STATES, 1932-1942

Line No.	Cause of Death	Death Rate (Number per 100,000 Estimated Population)											Line No.
		1942	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	
1	All causes	1,035.5	1,050.4	1,074.1	1,060.4	1,064.0	1,125.9	1,155.2	1,094.5	1,105.4	1,068.7	1,087.7	1
2	Typhoid and paratyphoid fever........1, 2	0.6	0.8	1.1	1.5	1.9	2.1	2.5	2.8	3.4	3.6	3.7	2
3	Cerebrospinal (meningococcus) meningitis .6	0.7	0.5	0.5	0.7	0.8	1.7	2.4	2.1	1.0	1.2	1.4	3
4	Scarlet fever........................8	0.3	0.3	0.5	0.7	0.9	1.4	1.9	2.1	2.0	2.0	2.2	4
5	Whooping cough.......................9	1.9	2.8	2.2	2.3	3.7	3.9	2.1	3.7	5.9	3.6	4.5	5
6	Diphtheria..........................10	1.0	1.0	1.1	1.5	2.0	2.0	2.4	3.1	3.3	3.9	4.4	6
7	Tuberculosis (total)...............13–22	43.1	44.5	45.8	47.1	49.1	53.8	55.9	55.1	56.7	59.6	62.5	7
8	Tuberculosis of the respiratory system..13	39.6	40.9	42.1	43.1	44.7	49.2	50.8	49.9	51.2	53.7	56.1	8
9	Tuberculosis (other forms).........14–22	3.5	3.7	3.7	4.0	4.4	4.7	5.1	5.2	5.5	5.9	6.4	9
10	Dysentery...........................27	1.4	1.8	1.9	1.9	2.3	2.3	2.4	1.9	2.7	2.2	1.7	10
11	Malaria.............................28	0.6	0.9	1.1	1.3	1.8	2.1	3.1	3.5	3.6	3.7	2.1	11
12	Syphilis (all forms)................30	12.2	13.3	14.4	15.0	15.9	16.1	16.2	15.4	15.9	15.1	15.4	12
13	Measles.............................35	1.0	1.7	0.5	0.9	2.5	1.2	1.0	3.1	5.5	2.2	1.6	13
14	Poliomyelitis and polioencephalitis (acute) 36	0.4	0.6	0.8	0.6	0.4	1.1	0.6	0.8	0.7	0.6	0.7	14
15	Cancer and other malignant tumors...45–55	122.1	120.2	120.0	117.5	114.9	112.4	111.4	108.2	106.4	102.3	102.3	15
16	Cancer of the digestive organs and peritoneum......................46	55.9	54.9	55.1	54.8	54.5	53.8	53.3	52.2	51.8	50.3	50.8	16
17	Cancer of the female genital organs.48, 49	15.7	15.9	16.0	15.8	15.6	15.5	15.5	15.1	15.0	14.4	14.6	17
18	Cancer of the breast................50	11.9	11.7	11.7	11.4	11.1	10.8	10.7	10.4	10.4	9.9	9.9	18
19	Cancer (other sites)........45, 47, 51–55	38.6	37.7	37.1	35.6	33.7	32.2	31.9	30.5	29.2	27.6	27.0	19
20	Acute rheumatic fever...............58	1.1	1.2	1.3	1.3	1.6	1.5	1.7	1.8	1.8	2.0	2.2	20
21	Diabetes mellitus...................61	25.4	25.5	26.5	25.5	23.9	23.7	23.7	22.3	22.2	21.4	22.0	21
22	Exophthalmic goiter.................63b	2.2	2.5	2.8	2.8	2.9	2.9	3.0	2.8	2.8	2.7	3.1	22
23	Pellagra (except alcoholic).........69	1.1	2.4	1.6	1.8	2.5	2.5	2.9	2.8	2.9	3.1	3.0	23
24	Alcoholism (ethylism)...............77	1.9	1.8	1.9	2.0	2.0	2.6	2.9	2.6	2.9	2.6	2.5	24
25	Intracranial lesions of vascular origin.....83	90.2	89.1	90.8	87.8	85.9	86.7	91.0	85.7	85.5	84.1	87.5	25
26	Other diseases of the nervous system, etc..............80–82, 84–88	11.1	10.6	10.7	10.9	11.4	12.4	13.5	12.9	12.8	12.6	12.6	26
27	Diseases of the ear, nose, and throat..................89, 104, 115	3.8	4.3	5.3	5.7	6.5	7.4	8.4	8.7	8.8	8.5	8.4	27
28	Diseases of the heart...............90–95	295.2	290.2	291.9	275.5	269.7	268.9	266.6	245.4	240.3	228.0	224.1	28
29	Chronic rheumatic diseases of the heart............90a, 92b,c, 93c, 95b	18.9	19.8	20.8	20.0	....	....	....	....	....	....	....	29
30	Diseases of the coronary arteries and angina pectoris....................94	84.9	80.5	76.9	68.3	....	....	....	....	....	....	....	30

TABLE D (Continued)

DEATH RATES FOR SELECTED CAUSES: REGISTRATION STATES, 1932-1942 (Continued)

Line No.	Cause of Death	Death Rate (Number per 100,000 Estimated Population)											Line No.
		1942	1941	1940	1939	1938	1937	1936	1935	1934	1933	1932	
31	Diseases of the heart (other forms) 90b, 91, 92a,d,e, 93a,b,d,e, 95a,c	191.4	189.9	194.2	187.2	....	....	....	....	....	....	....	31
32	Pneumonia (all forms) and influenza..................107–109, 33	55.7	63.9	70.1	75.7	80.4	114.9	119.6	104.2	96.9	95.7	107.3	32
33	Bronchopneumonia..................107	22.9	23.6	26.2	27.1	30.5	35.6	36.9	33.5	33.2	29.6	32.5	33
34	Lobar pneumonia....................108	20.5	20.8	25.1	29.3	34.3	46.7	52.9	45.3	43.4	36.4	41.1	34
35	Pneumonia (unspecified).............109	4.1	3.7	3.5	2.9	3.0	3.1	3.4	3.2	3.1	3.2	3.1	35
36	Influenza..........................33	8.1	15.8	15.3	16.4	12.7	29.5	26.4	22.2	17.3	26.4	30.6	36
37	Ulcer of stomach or duodenum.........117	6.9	6.7	6.8	6.8	6.5	6.8	6.7	6.6	6.1	6.0	6.0	37
38	Diarrhea, enteritis, etc.............119, 120	8.8	10.5	10.3	11.6	14.3	14.7	16.4	14.1	18.4	17.3	16.1	38
39	Appendicitis.......................121	6.3	8.1	9.9	10.8	11.0	11.9	12.9	12.7	14.3	14.1	14.1	39
40	Hernia and intestinal obstruction.......122	8.6	8.7	9.0	9.4	9.7	10.2	10.5	10.3	10.3	10.0	10.1	40
41	Cirrhosis of the liver..................124	9.4	8.9	8.6	8.3	8.3	8.5	8.3	7.9	7.7	7.4	7.2	41
42	Biliary calculi, etc................126, 127	5.1	5.7	6.0	6.2	6.5	6.7	6.9	6.7	7.0	6.9	7.0	42
43	Nephritis........................130–132	72.4	75.1	81.4	82.9	77.4	79.9	83.5	81.3	84.3	83.0	87.4	43
44	Diseases of the prostate...............137	6.0	6.2	6.7	6.6	6.4	6.7	6.9	6.7	6.6	6.1	5.6	44
45	Diseases of pregnancy, childbirth, and the puerperium..............140–150	5.4	6.0	6.7	7.0	7.7	8.4	9.5	9.9	10.2	10.3	11.0	45
46	Puerperal septicemia 140, 142a, 145a, 147	2.1	2.4	2.9	2.9	2.6	2.9	3.6	4.1	4.0	3.9	4.1	46
47	Puerperal toxemias.......141ac, 144, 148	1.4	1.5	1.7	1.7	1.9	2.1	2.2	2.1	2.4	2.4	2.6	47
48	Other puerperal causes 141b,d,e,f, 142b, 143, 145b, 146, 149, 150	1.9	2.0	2.1	2.4	3.2	3.4	3.7	3.6	3.8	3.9	4.3	48
49	Congenital malformations..............157	11.9	10.5	10.0	9.5	9.3	9.2	9.4	9.3	10.0	9.6	10.3	49
50	Premature birth......................159	25.8	25.1	24.5	24.6	25.2	26.1	26.3	26.0	27.8	26.2	27.5	50
51	Suicide.........................163, 164	12.0	12.9	14.3	14.1	15.3	15.0	14.3	14.3	14.9	15.9	17.4	51
52	Homicide.......................165–168	5.8	6.0	6.2	6.4	6.8	7.6	8.0	8.3	9.5	9.7	9.0	52
53	Motor-vehicle accidents...............170	21.2	30.0	26.1	24.7	25.1	30.8	29.7	28.6	28.6	25.0	23.6	53
54	Other accidents..............169, 171–195	50.5	46.3	47.3	46.0	47.2	50.9	56.2	49.8	51.3	47.4	47.7	54
55	All other causes........................	106.3	104.8	107.6	105.3	104.4	108.7	114.6	110.9	114.4	112.9	112.5	55

TABLE E

PERCENT COMPLETENESS OF BIRTH REGISTRATION, BY RACE AND POPULATION GROUPS: UNITED STATES AND EACH STATE, DEC. 1, 1939 TO MARCH 31, 1940

(By Place of Birth)

Area	Total	White	All Other	Cities of 10,000 or More			Cities Under 10,000 and Rural		
				Total	White	All Other	Total	White	All Other
UNITED STATES	92.5	94.0	82.0	96.9	97.4	91.5	88.0	90.2	76.6
NEW ENGLAND:									
Maine	96.1	96.3	*63.2	97.7	97.7	*100.0	95.4	95.6	*61.1
New Hampshire	98.7	98.6	*100.0	99.0	99.0	*100.0	98.2	98.2	*100.0
Vermont	97.3	97.3	*100.0	97.8	97.8	*100.0	97.1	97.1	...
Massachusetts	98.9	98.9	98.0	99.0	99.0	98.8	97.7	97.8	*95.1
Rhode Island	98.8	98.8	*100.0	99.2	99.2	*100.0	93.2	93.0	*100.0
Connecticut	99.4	99.4	97.9	99.6	99.6	98.3	98.2	98.3	*94.1
MIDDLE ATLANTIC:									
New York	98.9	98.8	96.3	98.7	98.9	96.2	98.4	98.5	96.6
New Jersey	99.0	99.0	98.7	99.2	99.2	98.9	98.0	98.1	97.6
Pennsylvania	97.0	97.2	92.9	97.2	97.6	93.0	96.6	96.6	91.7
EAST NORTH CENTRAL:									
Ohio	95.2	95.3	93.7	96.9	97.1	94.4	92.0	92.0	89.1
Indiana	96.5	96.6	94.0	96.7	96.9	93.9	96.4	96.4	*95.5
Illinois	96.9	97.3	90.6	97.7	98.0	93.0	95.1	95.5	72.2
Michigan	97.8	97.9	94.0	98.0	98.3	94.5	97.3	97.4	*87.9
Wisconsin	96.9	96.9	93.2	98.4	98.4	*100.0	95.1	95.2	89.2
WEST NORTH CENTRAL:									
Minnesota	99.3	99.3	97.2	99.8	99.8	*100.0	99.0	99.0	*96.1
Iowa	94.6	94.7	*90.1	96.9	97.0	*93.4	93.0	93.0	*73.3
Missouri	90.2	90.7	82.7	95.1	95.7	89.1	86.0	86.7	68.7
North Dakota	94.7	94.6	95.2	99.5	99.5	*100.0	93.2	93.1	95.1
South Dakota	95.4	96.6	79.8	98.4	98.4	*100.0	94.5	95.9	79.7
Nebraska	96.9	97.0	93.1	98.6	98.6	*100.0	96.0	96.1	*82.5
Kansas	95.5	95.6	92.9	96.1	96.5	91.8	95.1	95.1	*96.2
SOUTH ATLANTIC:									
Delaware	97.4	97.2	98.6	99.2	99.1	100.0	95.0	94.2	97.7
Maryland	97.1	97.8	94.1	97.6	98.2	95.0	96.1	97.0	92.9
District of Columbia	97.9	98.5	96.6	97.9	98.5	96.6	...	...	...
Virginia	91.9	92.5	90.2	96.5	97.5	93.5	89.9	90.2	89.0
West Virginia	86.5	86.7	81.3	91.8	91.8	*91.2	84.9	82.2	79.7
North Carolina	86.1	88.4	81.0	90.1	92.2	84.2	84.9	87.1	80.2
South Carolina	77.6	82.7	71.8	87.0	89.4	81.7	74.7	79.8	70.0
Georgia	81.3	83.6	77.6	91.7	93.5	87.8	77.5	79.5	74.5
Florida	89.9	91.3	86.4	95.0	96.0	92.0	86.0	87.3	83.1
EAST SOUTH CENTRAL:									
Kentucky	89.2	89.2	87.6	96.2	96.3	95.0	87.4	87.6	83.2
Tennessee	80.4	81.4	75.1	92.1	93.6	87.3	74.6	76.2	63.6
Alabama	85.2	86.4	82.4	92.5	94.2	89.3	82.6	83.9	80.3
Mississippi	89.8	93.8	86.2	97.5	98.8	94.9	88.7	92.7	85.4
WEST SOUTH CENTRAL:									
Arkansas	75.9	79.6	63.2	86.3	89.4	73.2	73.9	77.6	61.7
Louisiana	86.1	87.7	83.7	94.8	96.1	92.4	81.2	82.5	79.3
Oklahoma	84.8	87.0	66.9	91.5	92.8	77.2	81.9	84.2	63.8
Texas	86.5	89.3	68.7	92.5	93.6	83.6	82.4	86.2	60.9
MOUNTAIN:									
Montana	97.6	98.0	91.1	99.1	99.3	*80.0	96.7	97.1	91.8
Idaho	95.0	95.1	*79.3	95.5	95.6	*60.0	94.8	94.9	*83.3
Wyoming	95.6	95.9	*85.4	97.2	97.2	...	94.8	95.2	*85.4
Colorado	89.8	89.8	*90.4	95.8	95.9	*92.2	84.4	84.4	*86.7
New Mexico	86.4	91.2	40.3	92.3	92.1	*97.4	85.0	90.9	34.8
Arizona	84.4	93.8	48.4	94.4	95.0	87.8	79.0	93.0	41.8
Utah	96.6	97.1	*59.6	98.0	98.0	*100.0	95.3	96.1	*50.0
Nevada	96.2	97.5	*80.9	98.4	98.9	*50.0	95.2	96.8	*82.2
PACIFIC:									
Washington	97.8	98.0	88.7	98.6	98.6	*99.0	96.1	96.9	81.2
Oregon	97.1	97.3	*84.1	98.8	98.8	*96.9	95.2	95.5	*73.0
California	98.0	98.1	96.5	98.5	98.5	97.9	96.7	96.9	91.7

* Percentage is based on fewer than 100 records.

PERIODICAL PUBLICATIONS

American Druggist
572 Madison Ave., New York City.
American Journal of Anatomy
36th Street and Woodland Aves., Philadelphia.
American Journal of Clinical Pathology
Mount Royal and Guilford Aves., Baltimore, Md.
American Journal of the Medical Sciences
600 Washington Sq., Philadelphia.
American Journal of Nursing
1790 Broadway, New York City.
American Journal of Obstetrics and Gynecology
3523 Pine Boulevard, St. Louis, Mo.
American Journal of Pathology
818 Harrison Ave., Boston.
American Journal of Pharmacy
Philadelphia College of Pharmacy and Science, Philadelphia.
American Journal of Public Health and the Nation's Health
1790 Broadway, New York City.
American Journal of Surgery
49 West 45th Street, New York City.
Anatomical Record
36th Street and Woodland Ave., Philadelphia.
Annals of Medical History
49 East 33rd Street, New York City.
Annals of Surgery
227 South Sixth Street, Philadelphia.
Journal of the American College of Dentists
632 West 168th Street, New York City.
Journal of the American Dental Association
212 East Superior Street, Chicago.
Journal of the American Institute of Homeopathy
332 S. Michigan Ave., Chicago.
Journal of the American Medical Association
535 North Dearborn Street, Chicago.
Journal of the American Pharmaceutical Association
2215 Constitution Ave., Washington, D. C.
Journal of Bacteriology
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Bone and Joint Surgery
8 The Fenway, Boston.
Journal of Clinical Investigation
622 West 168th St., New York City.
Journal of Dental Research
632 West 168th Street, New York City.
Journal of Experimental Medicine
York Ave. and 66th Street, New York City.
Journal of Infectious Diseases
5750 Ellis Ave., Chicago.
Journal of Nervous and Mental Disease
64 West 56th Street, New York City.
Journal of Pharmacology and Experimental Therapeutics
Mount Royal and Guilford Aves., Baltimore, Md.
Journal of Social Hygiene
1790 Broadway, New York City.
Medical Life
4 St. Luke's Place, New York City.
Medical Record
70 Orange St., Bloomfield, N. J.
Medical Review of Reviews
4 St. Luke's Place, New York City.
Medicine
Mount Royal and Guilford Aves., Baltimore, Md.
N. Y. State Journal of Medicine
292 Madison Ave., New York City.
Radiology
607 Medical Arts Building, Syracuse, N. Y.
Surgery, Gynecology and Obstetrics
54 East Erie Street, Chicago.
Yale Journal of Biology and Medicine
New Haven, Conn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

Academy of Medicine, 2 E. 103rd St., New York City.

Alliance Against Frauds, 36 W. 44th St., New York City.

Allied Dental Council, 145 W. 57th St., New York City.

American Academy of Applied Dental Science, 587 Fifth Ave., New York City.

American College of Surgeons, 40 E. Erie St., Chicago, Ill.

American Gynecological Society, 842 Park Ave., New York City.

American Heart Assn., Inc., 1790 Broadway, New York City.

American Institute of Homeopathy, 280 Madison Ave., New York City.

American Laryngological, Rhinological and Otological Society, Inc., 708 Medical Arts Bldg., Rochester, N. Y.

American Medical Assn., 535 N. Dearborn St., Chicago, Ill.

American Ophthalmological Society, 303 Whitney Ave., New Haven, Conn.

American Osteopathic Assn., 540 N. Michigan Ave., Chicago, Ill.

American Physiological Society, 2109 Adelbert Road, Cleveland.

American Society of Clinical Pathologists, 531 N. Main St., South Bend, Ind.

American Society for the Control of Cancer, Inc., 350 Madison Ave., New York City.

American Society of Tropical Medicine, Ohio State University College of Medicine, Columbus, Ohio.

American Veterinary Medical Assn., 600 S. Michigan Ave., Chicago, Ill.

Association of American Medical Colleges, 5 S. Wabash Ave., Chicago, Ill.

Association of Military Surgeons of the U. S., Army Medical Museum, Washington, D. C.

Edward L. Trudeau Foundation for Research and Teaching in Tuberculosis, Saranac Lake, N. Y.

National League of Nursing Education, 1790 Broadway, New York City.

National Tuberculosis Assn., 1790 Broadway, New York City.

New York Academy of Sciences, 77th St. and Central Park West, New York City.

New York Health Department, Inc., 125 Worth St., New York City.

Osteopathic Assisting Service Bureau, 60 East 42nd St., New York City.

Public Health Committee, 2 E. 103rd St., New York City.

Rockefeller Foundation, 49 W. 49th St., New York City.

Society of American Bacteriologists, Agricultural Hall, University of Wisconsin, Madison, Wis.

Society of Medical Jurisprudence, New York Academy of Medicine, New York City.

Southern Medical Assn., 1020 Empire Bldg., Birmingham, Ala.

United Hospital Fund, 370 Lexington Ave., New York City.

DIVISION XXIV

PHILOSOPHICAL AND SOCIAL SCIENCES

PSYCHOLOGY

By Wilbur S. Hulin
Lecturer, Oregon State System of Higher Education

GENERAL

Popular Texts.—In W. H. Roberts' *Psychology You Can Use* (Harcourt, Brace) each chapter contains experiments which any reader can perform at home. S. H. Kraines and E. S. Thetford offer practical suggestions in their book, *Managing Your Mind* (Macmillan). An interesting selection of material, called *Psychology Through Literature* (Oxford), has been arranged by C. Shrodes, J. Van Gundy and R. W. Husband. G. Zilboorg provides the doctor's view of *Mind, Medicine and Man* (Harcourt, Brace). W. C. Langer writes on *Psychology and Human Living* (Appleton-Century). The Psychological Corporation of New York has introduced a new series, entitled *Bulletin of the Psychological Service Center.*

Current Theory.—In a review of the status of the "ego" in contemporary psychology, G. W. Allport indicates that a revival of this concept is valuable in dealing with the characteristics of "unity and personal relevance" which exists in psychological problems (*Psych. Rev.*, Sept.). R. W. Leeper has prepared a lucid synopsis of *Lewin's Topological and Vector Psychology* (Univ. of Oregon). C. L. Hull has organized the *Principles of Behavior* (Appleton-Century) around the recent concepts of "behavioral oscillation" and "primary motivation" as they appear in the process of learning.

WAR

Interpretations.—M. A. May, in his *Social Psychology of War* (Yale Univ.), views war as a social phenomenon in terms of the learning process functioning under the conditions which exist at the time of a particular war; he depicts situations in which society has learned to hate and fight, also situations in which society has learned to love and cooperate. L. A. Pennington, R. B. Hough, and H. W. Case have prepared a popular account of *The Psychology of Military Leadership* (Prentice-Hall). P. S. Madigan and M. J. Farrell state that American military discipline is based upon the idea of teamwork, and that the American soldiers are well adapted by their education and recreational experiences for army life (*J. Lab. Clin. Med.*, June). The series of reports on "Psychology and the War," edited by S. H. Britt and D. G. Marquis in the *Psychological Bulletin,* include such discussions as "the minimum requirements for training in military personnel" (Jan.), "a textbook on military psychology" (Jan.), "psychological aspects of rehabilitation" (June), and "psychology for the fighting man" (Oct.). C. Davidson justifies the "trial-and-error" methods used in many wartime programs; changes in procedure as a result of experience is a sign of intelligence (*Educ. Rev.*, July).

Induction.—The Michigan Society

of Neurology and Psychiatry has published a useful guide on nervous and mental problems to aid local draft boards (obtainable by writing E. N. Hinco, Eloise Hospital, Eloise, Mich.). The American Psychiatric Association's "symposium on psychiatry in the armed forces" includes discussions of the youngest group of inductees by M. J. Farrell, the treatment of panic states by H. W. Brosin, and neuroses resulting from combat by E. R. Smith (*Amer. J. Psychiatr.*, July).

War Services.—J. G. Watkins believes that psychologists could analyze the personalities of the enemy military leaders and thereby aid in anticipating their plans (*J. Consult. Psych.*, May). P. C. Reed describes the activities of the O.W.I. (Office of War Information) in distributing 16 millimeter motion picture films for exhibition to the civilian population of the United States (*Educ. Screen*, Sept.).

Children and War.—L. B. Murphy describes the actual experiences of pre-adolescent children in wartime conditions, and S. Chess interprets the children's war ideologies—for example, many children endeavor to correct their faults, such as stealing and garrulity, as a war effort (*Amer. J. Orthopsychiatr.*, July). A. T. Jersild and M. F. Meigs review the literature on "Children and War" (*Psych. Bull.*, Oct.). G. E. Gardener urges that types of war effort in which the whole family participates will help the younger children acquire a feeling of security; also the school program should be diversified and be more closely supervised than ever (*Ment. Hyg.*, July).

POST-WAR

Symposia.—A series of symposia upon post-war problems is appearing in the *Journal of Educational Sociology*, and includes such topics as "the citizenship of the foreign born" (Sept.), "social goals" (Nov.), and "children in the world of chaos" (Dec.). A symposium on the Psychology of Peace is presented in the April number of the *Journal of Abnormal and Social Psychology* with articles by E. C. Tolman on "identification in the post-war world," R. Stagner on "peace-planning as a problem in the psychology of learning," and G. Murphy on "psychology in the making of peace."

Recommendations.—L. Omwake and others recommend that after the war the teaching of psychology should stress such topics as motivation, statistics, and behaviors essential for cooperation (*Jun. Coll. J.*, Sept.). After the war there will be a great amount of adult education and guidance; the responsibility for this work, declares R. D. Allen, will rest upon the separate communities (*Adult Educ.*, July). R. M. Brickner and L. V. Lyons, taking a neuropsychiatric view of German culture, propose a reeducation through many of Germany's institutions, such as family life, policing, and schools (*J. Nerv. & Ment. Dis.*, Sept.).

PERSONALITY

Influences.—External influences which affect the formation of an individual's character are considered in H. H. Davidson's book, *Personality and Economic Background* (King's Crown), and in T. M. Newcomb's work on *Personality and Social Change* (Dryden). C. J. Marsh found certain items in the Washburne *Social Adjustment Inventory* which significantly distinguish the socially successful group of college girls from the unsuccessful group; the successful group scored higher on such items as "interest in others' happiness" and "helping to get rid of injustice" (*J. Soc. Psych.*, May).

Analysis.—A. F. Dodge has compiled a set of 43 questions which can be used as a test for the personality traits of successful teachers, as judged by college students and by air corps students (*J. Appl. Psych.*, Aug.). J. Bowlby's *Personality and Mental Illness* (Emerson) follows Kretschmer's idea that the typical psychoses really represent personality patterns, such as the cyclothymic and schizothymic types. P. L. Goitein and S. B. Kutash list the items which should be included in a punch-card tabulation of personality: these include the three dimensions of basic personality innate (*e.g.*, neurotic), zone (*e.g.*, oral), and quality (*e.g.*, realistic); various levels of description should also be studied: 1. ancestral, 2. environmental, 3. psychometric, 4. documentary, 5. phantasy, and 6. total and social (*J. Crim. Psychopath.*, July). T. G. Andrews has devised a factorial analysis of responses to the comic as a method of studying personality (*J. Gen. Psych.*, Apr.).

Dynamics.—According to A. H. Maslow, the dynamics of personality organization involves such personality syndromes as interchangeability, circular determination, self-maintenance, reestablishment, and alternation of the whole syndrome. *Psych. Rev.*, Sept.). The revelation of inner personality, as expressed in outward behavior, has been experimentally studied by W. Wolff and reported in *The Expression of Personality* (Harper). Another dynamic view is given in *Personality and Behavior Disorders* (Ronald), edited by J. M. Hunt.

ABNORMAL

History.—E. A. Strecker traces the historical course of psychiatric treatment in the United States from 1754, when "leg locks, rings, staples, chains" were used, to the present time of war when psychiatry is seeking to contribute to the social gospel of democracy (*J. Nerv. & Ment. Dis.*, Oct.). G. H. Estabrooks recounts the story of *Hypnotism* (Dutton). *Contemporary Psychopathology* (Harvard Univ.) is a source book compiled by 54 authorities.

Textbooks.—D. E. Cameron describes the techniques employed in *Objective and Experimental Psychiatry* (Macmillan). S. Cobb defines the *Borderlands of Psychiatry* (Harvard Univ.). E. A. Strecker offers the *Fundamentals of Psychiatry* (Lippincott) and supplies a much needed propaedeutic to the literature of American psychiatry. E. W. Biddle's *Introduction to Psychiatry* (Saunders) leads the student into institutional life and manners as well as into symptomatology.

New Approaches.—K. Dunlap includes in a "practical concept of neurosis" a better recognition that both organic and mental causes may be present in any case, and that the causes are always complex (*J. Gen. Psych.*, Jan.). J. H. Masserman and O. S. Sprague, in *Behavior and Neurosis* (Univ. of Chicago), provide experimental observations of the various symptoms which result from frustration; for example, neurotic individuals often persevere futilely in the situation which has blocked them. The general tendency of nervous children to become unable to eat is interpreted by J. A. Ross as a symbolic rejection of any new acquisition which might upset previous psychobiological adjustments and require new adjustments (*Psychosomat. Med.*, Apr.). H. Herma and others note a general rejection of Freud's theory of the dream in American textbooks of Psychology (*J. Abn. & Soc. Psych.*, July). J. Ruesch and B. E. Moore found that in 85 patients with severe head injuries, their accuracy in mental calculations was regained sooner than was the normal speed of calculation (*Arch. Neur. & Psychiatr.*, Aug.).

Clinical Methods.—In the navy, the abbreviated psychiatric interview, although a product of necessity, has been successful; as manpower shortages increase there will be a need for a finer screening of men previously rejected because of psychopathic symptoms (*J. Psych.*, July). C. R. Rogers describes a special method of spontaneous, non-directive therapy which is being developed for guidance clinics (*J. Abn. & Soc. Psych.*, Apr.). R. May reports on the training of ministers in clinical methods (*Relig. Educ.*, May). S. R. Slavson offers an instructive *Introduction to Group Therapy* (Commonwealth). N. E. Cutts outlines the clinical training needed for the certification of school psychologists (*J. Consult. Psych.*, Jan.). E. H. Porter evaluates counseling methods according to their effectiveness in (1) defining the interview situation, (2) bringing out the problem situation, (3) developing the client's understanding, and (4) sponsoring the client's decision-making (*Educ. & Psych. Meas.*, Summer).

Shock Therapy.—In a follow-up of schizophrenic cases, by J. S. Gottlieb and P. E. Huston, over a period of four years, it was noted that of 66 patients treated with insulin shock and of 132 patients not treated, there was a social recovery by 23 per cent treated and 11 per cent not treated; complete and social recovery by 35 per cent treated and 33 per cent not treated; there was no improvement by 52 per cent treated and 54 per cent not treated (*Arch. Neur. & Psychiatr.*, Feb.). The recently adopted method of using electro-cerebral shock as a therapeutic treatment for psychosis produced in 100 patients 33 recoveries, 31 improvements, 29 unchanged, and seven relapses; manic-depressive cases responded best, according to J. Epstein (*J. Nerv. & Ment. Dis.*, Aug.). Along with shock therapies there are also "irritative" therapies, such as the use of camphor injections: E. Friedman (*ibid.*, Sept.).

Mental Hygiene.—N. Fenton supplies a large fund of first-hand experience and information in his book, *Mental Hygiene in School Practice* (Stanford Univ.); the author arranges several series of case studies in order from those which responded with the greatest improvement to those who remain unchanged in the realms of pupil adjustment, teacher adjustment, parent-teacher relationships, and civic, coordinating council programs. The mental hygiene of maturity is a distinct problem: its principles are enunciated by R. L. Sutherland as follows: (1) make a status adjustment (this is especially difficult with the American ideology of equal opportunity), (2) be able to make a complete reorganization (as in the present wartime change in occupations), (3) be able to relax from high pressure activities, and (4) know about the minor psychopathologies (*Ment. Hyg.*, July). A summary on "happiness in old age," based on a questionnaire submitted by G. Lawton, lists the assets in later life as good health, trust in God, friends, useful activity, pleasant relationship and interest in others; the liabilities are lack of emotional discipline, loneliness, self-centeredness, lack of interests (*ibid.*).

PHYSIOLOGICAL

Texts.—C. T. Morgan's *Physiological Psychology* (McGraw-Hill) brings an up-to-date account of the biological basis of mental development, of sensory and motor phenomena, of motivation and learning. An important work of the year is found in the book by E. Weiss and O. S. English on *Psychosomatic Medicine* (Saunders); emphasis is placed on mental symptoms arising from the cardiovascular system; there is a chapter on military problems and chapters on therapeutic procedures and training in psychosomatic medicine.

Nervous System.—R. W. Sperry severed an optic nerve in 70 adult newts; the nerve regenerated and vision was restored in 51 animals within 31 days; rotating the eyeball 180 degrees causes a corresponding reversal of vision in the regenerated eye, and this shows the importance of the original functional values of the retinal points (*J. Comp. Neurol.*, Aug.). E. Gellhorn describes the *Autonomic Regulations* (Interscience). C. W. Darrow summarizes the literature on autonomic functions (*Physiol. Rev.*, Jan.).

Motor Response.—R. Gesell and A. K. Atkinson, in comparing the motor integration in the mouse, rat, rabbit, dog, and horse, recorded electrically the fusillades of muscle impulses issuing with various degrees of activity, and found that respiratory and motor nerve cell rhythm are higher in the smaller and nimbler animals (*Amer. J. Physiol.*, Sept.). E. Jacobson presents evidence contrary to the old belief that striped muscles always have a partial degree of tonic contraction by electrically recording a complete relaxation (*Amer. J. Psych.*, July). E. A. Weinstein elicited integrated patterns of facial expression by electrical stimulation of the brain stem (*Arch. Neurol. & Psychiatr.* July). C. Van Dusen's *Training the Speaking Voice* (McGraw-Hill) furnishes a plan of cultivating auditory sensitivity and motor control of breathing and vocalizing.

ANIMAL

Habits.—R. M. Yerkes' new book on *Chimpanzees: A Laboratory Colony* (Yale Univ.) covers the work done by the Orange Park Experimental Station during the past 25 years; a "composite portrait of the chimpanzee's personality is drawn." E. A. Robinson and E. F. Adolph observe that dogs regularly seek drinking water when the body is depleted of water by about 0.5 per cent of the body weight (*Amer. J. Physiol.*, May). W. J. Daniel devised an experimental situation in which pairs of rats learned to cooperate in taking turns at a food box while the other rat depressed a platform which made the food available (*J. Comp. Psych.*, June).

Heredity.—C. P. Stone's presidential address before the American Psychological Association reflects a contemporary interpretation of Darwin's theory of survival: the preponderance of evidence derived from studies of chromosomal patterns indicates that many isolated behavior patterns are inborn and unlearned, and thus support the earlier theory of instincts (*Psych. Bull.*, Jan.). From a catalogue of neonate responses W. Dennis decides against the anti-instinct interpretation and declares that most of these responses are unlearned (*Psych. Rev.*, May). B. Karpman is inclined to stress the environmental influences; he asserts that organized functioning is the basis for the characteristics of structure, and the functioning is patterned by the environment (*J. Nerv. & Ment. Dis.*, Aug.).

SENSATION

Vision.—S. R. Detwiler has written a treatise on *Vertebrate Photoreceptors* (Macmillan). C. Berger and others found that a condition of anoxia in 10 per cent oxygen lowers the visual brightness of objects and also reduces the discrimination of distance (*Amer. J. Psych.*, July). The dominant eye of an individual should be favored when the person is fitted for glasses; if the less dominant eye is given better vision in prescribing for a correction discomfort may result (*J. Psych.*, July). G. L. Walls suggests that the evolution of color vision in mammals may be a development of the central rather than the peripheral nervous system (*J. Appl. Physics*, Jan.). M. Luckiesh and A. H. Taylor review the researches in seeing at low brightness-levels (*Illum. Eng.*, Feb.).

Color.—Geometric figures, used for the representation of the relations between colors, should vary according to illumination and texture; D. Nickerson and S. M. Newhall have constructed some typical figures to illustrate the various form of color-solids (*J. Optic. Soc. Amer.*, July). W. F. Grether has designed a handy three-color mixer using filtered colors (*Sci.*, Sept.).

Audition.—In stimulating single auditory-nerve fibers, R. Galambos and H. Davis have determined that each fiber responds only to a narrow band of sound frequencies; however, with increased intensity the frequency of discharge in most fibers increases up to 450 per second (*J. Neurophysiol.*, Jan.). K. R. Smith has shown that the stapes bone of the middle ear must be in motion even in the case of hearing through bone conduction (*J. Exper. Psych.*, Aug.).

Touch.—C. N. Woolsey and others defined the tactile sensory area in the cerebral cortex (of chimpanzees) by means of amplified electrical responses; the stimulus was the pulling of hairs on various bodily surfaces (*J. Neurophysiol.*, July). G. W. S. Blair and F. M. V. Coppen introduce a concrete instance of gestalt-psychology in the estimation of firmness in soft materials, especially in non-solids which can be represented by mathematical formulae (*Amer. J. Psych.*, Apr.). An excellent summary, by H. G. Wolff, on the "mechanisms of headache," surveys the pain-sensitive structures of the head, and the causes of the various types of headache; for example, migraine headache is related to the pulsations of the external carotid arteries (*Arch. Neurol. & Psychiatr.*, Aug.).

Other Senses.—When one becomes adapted to bitter tastes, the sensitivity of taste to salt and sour is increased and that of sweet is decreased, according to J. W. and K. M. Dallenbach (*Amer. J. Psych.*, Jan.). W. F. Dove points out that, although the palatability of corn depends upon the carotene content, the erratic preferences of the buying public is determined by the relative standards established by the particular brands of corn available (*J. Comp. Psych.*, Apr.). E. A. Jerome measured olfactory thresholds by controlling the stimulus pressure (air blasts) and volume (amount of evaporation) and found that pressure has the greater influence on sensitivity (*Arch. Psych.*, No. 274).

AFFECTIVE

Aesthetics.—S. Zink believes that John Dewey's theory of aesthetics, which construes the process of "doing" as part of the aesthetic experience, does not sufficiently distinguish between the aesthetic, the practical, and the intellectual (*Philos. Rev.*, July). F. Boas interprets the psychological aspects in "the practice and teaching of creative dance" in terms of a practical knowledge of anatomy and physiology (*J. Aesth. & Art Crit.*, Jan.). M. Rokeach investigates the appreciation of human beauty and the relation of other factors of attractiveness such as dominance and security (*J. Soc. Psych.*, May).

Music.—R. P. Parker characterizes the psychological function of the hymn tune in a service of worship as that of putting the congregation into a receptive attitude toward religious teachings (*Relig. Educ.*, July). The use of music in industry possesses promising opportunities for increasing output, according to F. H. Kirkpatrick who recommends short periods of music at times when fatigue curves are rising (*J. Appl. Psych.*, June).

Emotion and Feeling.—Among the group elements in discipline problems, F. Redl finds a "group emotional climate" depending on the degree of identification of the members of the group with each other; for example, outside interference with a congenial group may arouse problems; the existence of incompatible members within a group itself may cause trouble (*Amer. J. Orthopsychiatr.*, Jan.). In P. T. Young's book, *Emotion in Man and Animal* (Wiley), emotion is regarded as a disorganizing process rather than a specific pattern of action. Emotional differences between Mongolians and Caucasians, as tested by responses to the threat of a painful blow, revealed greater withdrawal reflexes by the Caucasians and less psychogalvanic change; thus G. M. Stratton and F. M. Henry conclude that there is a certain degree of "neuro-psychic" contrast independent of cultural differences (*Amer. J. Psych.*, Apr.). D. Rapaport suggests that the alleged influence of pleasantness and unpleasantness on memory really consists of an integrating-organizing influence, or of a disintegrating-distorting process (*Psych. Rev.*, Mar.). D. Rapaport has also published a volume on *Emotions and Memory* (Williams & Wilkins). The affective contact of children with other persons is subject to several influences such as the amount of autistic thinking occurring in the child, also language habits and play habits: L. Kanner and others (*Nerv. Child.*, Apr.).

HIGHER MENTAL PROCESSES

Thought.—The question "what is imagination?" is answered by E. S. Dexter with the assertion that imagination is a special aspect of thinking, as are other activities such as anxiety, verification, and recall (*J. Gen. Psych.*, Jan.). Thinking, according to M. Bentley, involves "pursuing," "resolving," and "patterning," all of which are inquisitive in nature (*Amer. J. Psych.*, July).

Intelligence.—G. D. Stoddard's book on *The Meaning of Intelligence* (Macmillan) provides a critique of modern theories as well as the results of testing, guidance, curricular reform, and public reactions. S. Machover has compared "cultural and racial variations in patterns of intellect" (*Teach. Coll. Contrib. Educ.*). R. B. Cattell reviews the literature on measuring adult intelligence (*Psych. Bull.*, Mar.). F. T. Milne and others conclude that there is no significant correlation between intelligence and such physiological conditions as mechanical efficiency (*J. Genet. Psych.*, Sept.). R. W. B. Jackson and F. A. Ferguson appeal for greater functional specificity in the construction of tests so as to eliminate the "blur" caused by the concept of normal distribution (*Educ. & Psych. Meas.*, Spring).

LEARNING

Acquiring Skill.—The principles of learning to be considered in the reorganization of mathematics for the wartime emergency training are reviewed by L. B. Kinney (*Math. Teach.*, Jan.). W. Pitts proposes a general mathematical treatment of learning which allows for such variables as voluntary control, incentive, and interest (*Psychomet.*, Mar.). P. Woodward tested the transfer of training in certain identical motions but with new kinds of material, a procedure which could be used in industrial training (*J. Appl. Psych.*, Feb.).

Conditioning.—C. L. Hull's book, *Principles of Behavior* (Appleton-Century), deals primarily with modifications of behavior, especially the conditioned response. J. M. Kosupkin and J. M. D. Olmsted were able to condition rabbits to a slowing of the heart-rate by using ammonia inhalation as the unconditioned stimulus and a bell as the conditioned stimulus (*Amer. J. Physiol.*, Aug.). J. D. Harris identifies certain non-associative factors inherent in conditioning, such as habituation, facilitation, and pseudo-conditioning (*Comp. Psych. Monog.*, Mar.).

Memorizing.—Items which are given different amounts of practice and are then presented in a unified list do not support a law of frequency, for often the less practised items are more easily recalled: B. K. Stavrianos (*J. Gen. Psych.*, Apr.). L. G. Humphries submits reasons for assuming that during the progress of practice trials, to induce learning by frequency, many "sub-goal reinforcements" intrude (*J. Comp. Psych.*, Apr.). C. E. Buxton reviews "reminiscence" (*Psych. Bull.*, May).

DEVELOPMENTAL

Child Growth.—*Child Development* (Saunders), by M. E. Breckenridge and E. L. Vincent, delineates the physical and psychological growth through the school years. *Development in Adolescence* (Appleton-Century) by H. E. Jones, summarizes the work of the Institute of Child Welfare of the University of California. M. B. McGraw describes *The Neuromuscular Maturation of the Human Infant* (Columbia Univ.), A compendium on *Child Behavior and Development* (McGraw-Hill), edited by R. G. Barker, bridges the gap between the classroom, laboratory, and clinic. N. Bayley has prepared a set of norms on the development of adolescents (*Child Dev.*, June). H. B. Pryor's *As the Child Grows* (Silver-Burdett) stresses the physiology of growth.

Guidance and Care.—R. B. Winn has edited the *Encyclopedia of Child Guidance* (Philosophical Lib.). The anxiety of young children when separated from their parents, as in a hospital, may be reduced if the parent shows a courageous and sympathetic but not a pampering attitude during visits to the hospitalized child: H. Edelston (*Genet. Psych. Monog.*, Aug.). An important consideration in the psychology of the adopted child is shown by F. Clothier to be the continuation by the foster parents of the same social orientation to which the child was previously adjusted, that is, whether the child was socially dependent or had previously been self-sufficient (*Ment. Hyg.*, Apr.).

Influences.—A. Gesell and F. L. Ilge discuss the *Infant and Child in the Culture of Today* (Harper); the authors' experimental observations are applied to everyday living; typical "behavior days" are charted; emphasis is placed on the child's spontaneity for the cues through which the adult may collaborate with the child. In B. McCulley's appeal for an "education for democracy" he blames dictatorial policies in the classroom for repercussions in the democratic practices of the nation (*Educ. Rec.*, Jan.). A suggestive method of research is displayed in M. L. Pignatelli's study of the mentality of problem and non-problem children: factors in the social environment often had greater influence on mental development than did the endowment of intelligence (*Genet. Psych. Monog.*, May).

APPLIED

Texts.—A new series, entitled *Applied Psychology Monographs*, has appeared. *The Psychology of Efficiency* (Harper) by A. G. Bills, furnishes a guide to the hygiene of mental work in terms of an individual's particular mental equipment.

Social.—*Social Psychology of Modern Life* (Farrar & Rinehart), by S. H. Britt, directly applies its principles to college life. The legislation and services which insure social protection in wartime are recounted in the *Journal of Social Hygiene* (May). H. Cantril has collected a group of authoritative guesses regarding "the world in 1952," showing the changes in speculation before and after Pearl Harbor (*J. Abn. & Soc. Psych.* Suppl., Mar.). The aspects of marriage mainly concerning young women are religion, sex, and health; and concerning men are economics, sex, and religion: H. L. J. Carter and L. Foley (*J. Appl. Psych.*, June).

Vocational.—Vocational interests may reveal certain dynamic aspects of human action, according to E. S. Bordin; the emotional bond between an individual and his parents, the feeling of being inferior or superior to one's parents, and certain occupational stereotypes of attitude may be detected (*Educ. & Psych. Meas.*, Spring). A resumé and bibliography of the literature on "job analysis" is given by J. E. Zerga who enumerates 20 uses that can be made of job analysis information (*J. Appl. Psych.*, June). G. Lavos insists that many objections to hiring physically handicapped workers are unfounded, and that persons disabled in the war should have a good chance for vocational adjustment through the aid of personnel guidance (*J. Consult. Psych.*, July). Wartime industrial psychiatry has the task of adjusting workers unaccustomed to factory labor, and also of aiding the community adjustments to crowded living conditions: M. C. Gildea (*Amer. J. Orthopsychiatr.*, Jan.). E. K. Strong has brought together a summary of his extended work on *Vocational Interests of Men and Women* (Stanford Univ.). A small book, *Test Yourself for a War Job* (Houghton, Mifflin), permits any reader to administer to himself short revisions of 25 commonly used occupational inventories and analyses in order to assist himself in making necessary wartime occupational changes: S. V. Wilking and D. J. Cushman. J. G. Watkins has devised a "humanized" rating-scale for use in employee guidance which offers a favorable influence on employee morale (*Publ. Personn. J.*, Apr.). H. Moore has standardized a set of *Objective Tests* (McGraw-Hill) to accompany his recent book on *Psychology for Business and Industry*.

Delinquency.—Delinquent boys are inclined to pursue forms of recreation which are generally regarded as illegal, and as a consequence much of juvenile crime is an incidental part of their habits of play: D. B. Harris (*Amer. J. Orthopsychiatr.*, Oct.). W. C. Reckless makes an examination of the *Etiology of Delinquent and*

Criminal Behavior (Soc. Sci. Res. Counc.). Discussing *The Boy Sex Offender and His Later Career* (Grune & Stratton), L. J. Doshay reports that the majority of boys do not continue their offenses in adulthood unless they grow up in a mixed group of offenders. A guidance council program in behalf of prison inmates is described by E. R. Akers; the inmates also receive counseling service regarding their personal problems (*J. Crim. Law & Criminol.*, Jan.). Absenteeism in industry requires a certain amount of psychiatric study of the motives which cause workers to commit truancy: L. S. Selling (*Industr. Med.*, Apr.).

Malingering.—A differential diagnosis of *Malingering*, by D. C. Norris (in W. B. Doherty and D. D. Runes' *Rehabilitation of the War Injured* (Philos. Lib.) depicts the methods used to discover similated disabilities. Many new tests to detect feigned illnesses have been devised by the armed forces; G. M. Bruce points out, for example that blind persons do not have pupillary reflexes when they are focusing visual objects at different distances, so if there is a pupillary reflex it shows that the patient is really seeing the object and perceiving the distance of the object (*Nav. Med. Bull.*, Oct.). S. Kahn also presents an overview of "malingering in the army," showing the types of deception attempted (*Med. Rec.*, Aug.). On the constructive side, J. R. Delucchi describes the psychological factors which build up physical and mental integration (*J. Aviat. Med.*, Feb.), and J. Schreiber concludes that "the more we submerge our personal problems to the great problem of winning the war, the more physically fit we remain—that much more certain we are to go through this war without the development of any serious mental illness, and that much greater is our personal contribution to the winning of the war" (*Dis. Nerv. Syst.*, Apr.).

PHILOSOPHY

By Elizabeth F. Flower and C. West Churchman
Department of Philosophy, University of Pennsylvania

TEXTS AND INTRODUCTION

A New Approach to Philosophy, by *Cale Young Rice* (Lebanon, Tenn.: Cumberland Univ. Press) is a defense of a speculative naturalism, holding that reality is composed of four kinds of metaphysical ultimates: space, time, matter, mind; and offers a unique interpretation of the recent developments of science. A criticism and summary of modern philosophical positions is found in *Twentieth Century Philosophy: Living Schools of Thought*, edited by Dagobert D. Runes (N. Y.: Philosophical Library); it reprints various articles by Whitehead, Russell, Santayana, Montague, Dewey, and Pound. In addition, lectures on ethics by Tufts, on aesthetics by De Witt Parker, and by Boodin on Philosophy of History have been included. Another book of general interest is *An Introduction to Modern Philosophy—In Six Philosophical Problems* (Macmillan) by Albury Castell; it is an introduction to philosophy through the statement of such problems as "What is the nature of that ultimate reality of which the everyday world is but the appearance?" "Can we make an inquiry into the nature of knowledge?" and "From the findings of such an inquiry can we say anything about the scope or reach of human knowledge?"

HISTORICAL STUDIES OF PHILOSOPHERS

The centenary of the birth of William James in 1942 has been the occasion of a series of evaluations of his contributions to philosophy. The most outstanding of the books are: *In Commemoration of William*

James. The Man and the Thinker, composed of addresses delivered at the University of Wisconsin in celebration of the centenary of his birth (Madison: Univ. of Wisconsin Press); *William James. His Marginalia, Personality and Contribution* by A. A. Roback (Cambridge, Mass., Sci-Art Publishers). Longmans, Green and Company have republished some of the original material such as: *Essays in Radical Empiricism, A Pluralistic Universe; Pragmatism, A New Name for Some Old Ways of Thinking; Four Related Essays Selected from the Meaning of Truth;* and *Essays on Faith and Morals* (selected by Ralph Barton Perry).

Another anniversary was celebrated, the sixtieth birthday of Jaques Maritain. *The Maritain Volume of the Thomist* (ed. by the Dominican Fathers of St. Joseph, N. Y., Sheed and Ward) contains more than 20 essays on the "fields of Maritain's labors" concerning such widely different topics as J. C. Osbourn's "Theological Ingredients of Peace," Waldemar Garian's "On Maritain's Political Philosophy," and Finkelstein's "To be —That is the Answer." This volume is a scholarly and suitable *festschrift* to a great man whose thought is a significant part of American Philosophy. During the year Doris C. Anson translated Maritain's *The Rights of Man and Natural Law* (Scribner) which is an admirable summary of Catholic political philosophy.

The Columbia University Press has four books of note dealing with figures in the history of philosophy in the contemporary scene; Ben-Ami Scharfstein's *Roots of Bergson's Philosophy* and Morton G. White's *The Origin of Dewey's Instrumentalism* examine the antecedents of the matured thought of each of these men respectively. The latter is an analysis of Dewey's shift from Hegelian Idealism to instrumentalism in logical theory and the former an interpretation of Bergson as a great synthesizer of derived ideas. A recent book on Hume by Ernest Campbell Mossner pictures the famous Scot against the background of eighteenth century political and literary circles; it is titled *The Forgotten Hume, Le Bon Hume.* Paul Oskar Kristeller, in the *Philosophy of Marschio Fiano,* shows how that leader of the Platonic Academy in Florence, fused Platonic tradition, scholasticism, and humanism into a new system that was a significant contribution to the Renaissance.

LATIN AMERICAN PHILOSOPHY

Although somewhat beyond the scope of this review, it seems expedient to include some general note of the publications in Latin American Philosophy. Since the meetings in 1942 of the American Eastern Division of the American Philosophical Society there has been considerable interest in the ideas of those south of the Rio Grande. We have become better acquainted with the ideas of Argentina than any other country but this is owing, at least in part, to their excellent printing facilities. Anibal Sanchex Reulet's *Raiz y destino de la filosofía* (Cuadernos de Filosofía, 1, Tucuman: Universidad Nacional de Tucumán, Facultad de Filosofía y Letras, 1942) and Francisco Romero's *Filosofía contemporánea. Estudios y notas* (Buenos Aires: Editorial Losada) are instances. The Institute of Philosophy in Buenos Aires has published a volume in honor of Descartes by Miguel Angel Virasoro entitled *La Libertad, la existencia y el ser,* and Enrique Molina has written a resumé of his own philosophy in *Confession Filosofica* as a part of an inaugural address before the faculty of philosophy and education of the University of Chile (Santiago de Chile: Editorial Nascimiento). A little book of considerable importance in its comprehensiveness is the *Historia de filosofía mejicano* by Samuel Ramos. This is a publication of the National University of Mexico.

SOCIAL PHILOSOPHY

This field seems to be the one of major interest, judging from the large number of publications during 1943. Problems of history, of democracy, and of totalitarianism are the focal points. *The Hero in History* discusses a familiar topic with many illustrations; it is directed against the errors of the economic determinists (Sidney Hook, John Day Co., N. Y.). A translation of importance is *Force and Freedom, Reflections on History* by Jacob Burckhardt (translated and edited by James Hastings Nichols, N. Y.: Pantheon Books, Inc.). This presents Burckhardt as a historian of the first order. A discussion of the Augustinian idea of history and the Hegelian approach precedes Burckhardt's own idea of history as man in action; it is a very unusual treatment of history for an historian since it denies cycles in history, theories of recurrence, and teleological theories.

Reinhold Niebuhr discusses the Biblical-Christian view of man in history in *The Nature and Destiny of Man* (Gifford Lectures, N. Y.: Scribner). Princeton University published a group of essays on historiography and its possible contributions to the interpretation of morality. Professor Strayer wrote the introduction, and in it he traces the essential problems of history. An issue which seems to be common to all the essays is the old one of whether history is a science. Jacques Barzun treats history as a means of communication and Herbert Heaton analyzes various economic interpretations of history; Dumas Malone writes on biographical history, while Hajo Holborn discusses method.

George La Piano's paper on the influence of theological assumption upon the interpretation of history is quite original; his main point is that these influences have made much of historiography into apologetics. He shows that the divine revelation, the fall of man, the divine authority and the chosen people, have given a real coloring to interpretation of history; the book is entitled *The Interpretation of History*. Helmut Kuhn treats the surrender of the German people to Nazi Philosophy in a book entitled *Freedom, Forgotten and Remembered* (Chapel Hill: Univ. of North Carolina Press); he sees their capitulation as a result of the fact that freedom was forgotten and he sees the hope of their future in freedom remembered, *i.e.* in the implications concerning the nature of man.

American political life has been the subject matter of three books. T. V. Smith has revised *The Philosophic Way of Life in America* to include some deductions of practical political life in a supplement called *Social Philosophy of an American Sort;* he has also contributed an essay on Thomas Paine and one on Justice Holmes to *The Philosophy of American Democracy* (ed. by Charner M. Perry, Charles R. Walgreen Foundation Lectures, Chicago; Univ. of Chicago Press.) C. H. Faust's article in this same volume is "The Rhetoric of the Debate over the Adoption of the Constitution," while Professor Knight contributes two articles, "The Meaning of Freedom" and "The Ideal of Freedom: Conditions for Its Realization." *American Idealism* by Floyd Stovall (Univ. of Oklahoma Press) is important as a contribution in this general field. Another study in social philosophy is James Burnham's *The Machiavellians, Defenders of Freedom* (N. Y.: John Day Co.); it treats of various theories such as those of Robert Michels and Vilfredo Pareto. Mention may be made here also of *The World of Four Freedoms* by Sumner Welles.

SYMBOLIC LOGIC

Paul Bernays has added the fourth part to his important work on "A System of Axiomatic Set Theory" (*Journal of Symbolic Logic,* vol. 7, no. 4). R. M. Martin, in "A Homogenous System for Formal Logic" (*Journal of Symbolic Logic,* vol. 8, no. 1) makes an interesting study of a system having variables drawn only from a single logical type. N. V. Quine's work in the theory of metalanguage is extended in his article, "Notes on Existence and Necessity" (*The Journal of Philosophy,* vol. 40). At the same time, Carnap brings up to date his own thinking in the same subject in *Formalization of Logic* (Harvard Univ. Press, 1943).

Two important articles on the fundamental decision problem are J. C. C. McKinsey's "The Decision Problem for Some Classes of Sentences without Quantifiers" (*Journal of Symbolic Logic,* vol. 8, no. 3) and E. L. Post's "Formal Reductions of the General Combinatorial Decision Problem" (*American Journal of Mathematics,* vol. 65). A new textbook for the year in this field is J. C. Cooley's *A Primer of Formal Logic* (Macmillan).

PERIODICAL PUBLICATIONS

American Anthropologist
American Anthropological Association, American Museum of Natural History, New York City.

American Journal of Physical Anthropology
36th Street and Woodland Ave., Philadelphia.

American Journal of Psychiatry
9 Rockefeller Plaza, New York City.

American Journal of Psychology
Cornell University, Ithaca, N. Y.

American Journal of Sociology
5750 Ellis Ave., Chicago.

American Political Science Review
209 South Hall, Madison, Wis.

International Journal of Ethics
5750 Ellis Ave., Chicago.

Journal of Abnormal and Social Psychology
1822 Sherman Ave., Evanston, Ill.

Journal of Comparative Psychology
Mount Royal and Guilford Aves., Baltimore, Md.

Journal of Educational Psychology
10 East Centre St., Baltimore, Md.

Journal of Educational Sociology
32 Washington Place, New York City.

Journal of Experimental Psychology
1822 Sherman Ave., Evanston, Ill.

Journal of General Psychology
Journal Press, Provincetown, Mass.

Journal of Philosophy
515 West 116th Street, New York City.

Journal of Social Psychology
Journal Press, Provincetown, Mass.

Mental Hygiene
1790 Broadway, New York City.

Philosophical Review
55 Fifth Ave., New York City.

Psychoanalytic Review
3617 Tenth Street N.W., Washington, D. C.

Psychological Review
1822 Sherman Ave., Evanston, Ill.

Social Research
66 West 12th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, 3457 Walnut St., Philadelphia, Pa.

AMERICAN ANTHROPOLOGICAL ASSOCIATION, American Museum of Natural History, New York City.

AMERICAN ASSOCIATION OF PHYSICAL ANTHROPOLOGISTS, American Museum of Natural History, New York City.

AMERICAN ECONOMIC ASSOCIATION, Northwest University, Evanston, Ill.

AMERICAN ETHNOLOGICAL SOCIETY, Columbia University, New York City.

American Genetic Assn., 308 Victor Bldg., Washington, D. C.

American Philosophical Society, 104 S. 5th St., Philadelphia, Pa.

American Political Science Assn., 105 Harris Hall, Northwestern University, Evanston, Ill.

American Psychiatric Assn., 9 Rockefeller Plaza, New York City.

American Psychological Assn., University of Michigan, Ann Arbor.

American Psycopathological Assn., 520 Commonwealth Ave., Boston.

American Society for Psychical Research, 40 E. 34th St., New York City.

American Sociological Society, U. S. Dept. of Agriculture, Washington, D. C.

National Committee for Mental Hygiene, 1790 Broadway, New York City.

National Institute of Social Sciences, 271 Madison Ave., New York City.

Psychological Corporation, 522 Fifth Ave., New York City.

Society for American Archaeology, Illinois State Museum, Springfield.

PART SEVEN

THE HUMANITIES

DIVISION XXV

LITERATURE AND LANGUAGE

FICTION

BY PETER MONRO JACK
CRITIC AND LECTURER

FICTION AND THE WAR

Again fiction was edged out of the front pages by war reportage and commentary. *The New York Times Book Review,* which is a good index of the topical importance of books, had only seven novels on the front page during the entire year. The titles are, in chronological order: *Number One* by John Dos Passos (Houghton Mifflin), the story of a Southern demagogue (it could be Huey Long), his rise to power and the danger of democracy involved; *Never Call Retreat* by Joseph Freeman (Farrar & Rinehart), a very long novel (756 pp.) ranging from the First World War through a concentration camp to the sanity of America, a novel that for its range has been compared to *War and Peace; So Little Time,* by John P. Marquand (Little, Brown) an ironic comedy principally of New York in the early years of the present war with diversions into Marquand's New England and Hollywood. The novel had a mixed critical reception, but was second on the best seller lists at the end of the year.

See What I Mean by Lewis Browne (Random House), another portrait of an American Hitler, this time in Los Angeles. His anti-Semitic crusade is told by a "squealer." *The Walsh Girls* by Elizabeth Janeway (Doubleday, Doran), is a first novel of New England mill town middleclass life, of a nostalgic old maid and her modern married sister. *Arrival and Departure* by Arthur Koestler (Macmillan), a war novel, like *Darkness at Noon,* of a refugee and his wartime conflict of reason and morality, generally thought to be one of the great serious novels. *Taps for Private Tussie* by Jesse Stuart (Dutton), a folk tale of Kentucky characters.

No generalization can be made out of this about what America is reading. The American domestic scene is combined with scenes from the war and with philosophies about contemporary civilization.

BEST SELLERS

Still high in popularity were the 1942 novels: Lloyd Douglas's *The Robe* (Houghton Mifflin) and *The Valley of Decision* by Marcia Davenport (Scribner). The popular report of the year, however, was Betty Smith's first novel *A Tree Grows in Brooklyn* (Harper) which sold in fabulous numbers and was called by some critics the best book of the year and the Pulitzer Prize candidate. It is a warm-hearted, partly autobiographical story of an indomitable family living in a tenement under

Williamsburg Bridge nearly 30 years ago. *The Apostle* by Sholem Asch (trans. Putnam), a novel-biography of the Apostle Paul and of the persecutions by Nero was highly successful, perhaps showing, with *The Robe,* a renewed religious tendency.

WAR NOVELS

The effect of the war has again been demonstrated in many novels of the year. *The Conspirators* by Frederic Prokosch (Harper) is about Lisbon in wartime, the contrast between the old peaceful Lisbon and its invasion by alien spies and counterspies. *Congo Song* by Stuart Cloete (Houghton Mifflin) is about spies in Africa, half exotic, half thriller. *For All Men Born* by Margaret Mackprang Mackay (Day) has its background in Pearl Harbor. *Just Before Dawn* by Anne Green (Harper) is Paris during the last 25 years, leading up to the war through the tragic story of a young girl. *First Harvest* by Vladimer Pozner (trans. Viking) is another story of occupied France. *The Fifth Seal* by Mark Aldanov (trans. Scribner), a novel, depressing in effect, of the failure of France during the Spanish Civil War and the Moscow Trials.

Last Boat from Beyrouth by Royce Brier (Appleton) is a story of love and war aboard a transport ship in 1940. *Private Report* by Katherine Roberts (Doubleday, Doran) is based on the facts of Belgium's surrender and the subsequent underground movement. *Katherine* by Hans Habe (Viking) is of France before the war by an anti-Nazi writer.

The Ship by C. S. Forester (Little, Brown) is of the current war in the Mediterranean instead of his usual historical fiction. *Birds of Passage* by Ivan Heilbut (trans. Doubleday, Doran) is about a German refugee family in France. *Retreat, Hell!* by William Martin Camp (Appleton) is a dramatic story of the marines in Bataan. *No News from Helen* is Louis Golding's ironic tale of a returned soldier, disillusioned by conditions at home where he feels he is not wanted (Dial). J. B. Priestley has two novels of the war: *Blackout in Gretley* (Harper), of a spy-hunt in England, and *Daylight on Saturday* (Harper), a wartime portrait of a Midlands aircraft plant. In *Survival* Phyllis Bottome also writes of British character during the war (Little, Brown).

A successful first novel, *Retreat from Rostov* (Random House) was written by Paul Hughes, an Oklahoman who has never been outside of his country but who writes imaginatively of Russian characters during the war. Pearl Buck in *The Promise* (Day) writes of the characters from *Dragon Seed* persisting through the tragedy of the Burma Campaign. *Rice in the Wind* by Kathleen Wallace (Putnam) is a romanticised story of wartime in China.

HISTORICAL NOVELS

The historical novel dealing with American history, has not been as popular as usual. The best example is Hervey Allen's *The Forest and the Fort* (Farrar & Rinehart), the beginning of a saga of American history in the eighteenth century, particularly the adventures of a white boy adopted by the Indians. *The Mothers* by Vardis Fisher (Vanguard) is a chronicle of the Donner Party in the Sierras. *The Free Man* by Conrad Richter (Knopf) is the success story of a German emigré during the American Revolution. *End of Track* by Ward Weaver (Reynal) is a gripping story of early railroad, Indian fighting days. *Citizen Tom Paine* by Howard Fast (Duell) is a timely historical portrait.

Ride This Night by Vilhelm Moberg (trans. Doubleday, Doran) is about the revolt in Sweden against tyranny, comparable to happenings of today. *Goodbye, My Son* by Marjorie Coryn (Appleton) is the story of Napoleon's mother, the only person who could frighten him. *The Arm and the Dark* by Taylor Caldwell (Scribner) is a tale of the conflicts between Catholics and Huguenots during the time of Louis XIII with an excellent picture of Richelieu. *Against This Rock* by Louis Zara (Creative Age) is a novel of the time of Charles V. *The Sea Is So Wide* by Evelyn Eaton (Harper) is colonial history from Nova Scotia to Virginia.

PERIOD NOVELS

These novels do not depict world history; they narrow themselves down to the picture of a period. *Mrs. Parkington* by Louis Bromfield (Harper) is the picture of a fabulous old lady, individual and domineering, who lived from the Civil War to 1942. *Mr. Lincoln's Wife* by Anne Colver (Farrar & Rinehart) is a period-portrait of Mary Todd. *Supper at the Maxwell House* by Alfred Leland Crabb (Bobbs-Merrill) is a picture of the carpetbaggers at Nashville in 1870. *The Barefoot Mailman* by Theodore Pratt (Duell) tells of the mail being delivered along the Florida river half a century ago. *Centennial Summer* by Albert E. Idell (Holt) is a picture of Philadelphia during the President Grant regime. *The Locusts* by Otto Schrag (Farrar & Rinehart) is a novel of the Latter-day Saints, their farming in Kansas and their fight against the locust plague. *Rogues' Company* by Harry Harrison Kroll (Bobbs-Merrill) is the chronicle of an early American "speculator" born around 1800, a real person whose name was John Murrell, and this is a record of his rascalities.

Hungry Hill by Daphne du Maurier (Doubleday, Doran) tells the story of a century of decline and fall of an Irish family. *Katherine Christian* by the late Hugh Walpole (Doubleday, Doran) is a picture of the Herries family in the early 17th century. S. I. Suing's *The Bridge of Heaven* (Putnam) could be called a period novel, of China in the 19th century through the revolution of 1911. *Grand Parade* by G. B. Lancaster (Reynal) is a period piece of Nova Scotia in the early nineteenth century.

REGIONAL NOVELS

Regional novels which have climate, character, profession, and dialect which could belong to no other place, still buttress American fiction. Jesse Stuart's Kentucky novel has already been mentioned. *Colonel Effingham's Raid* by Barry Fleming (Duell) is the history and drama of a Georgia town. *In Georgia Boy* Erskine Caldwell goes back to his "Tobacco Road," after his visit in Russia. This time his picture is tender and humorous (Duell). *The Darker Brother* by Bucklin Moon (Doubleday, Doran) is a racial story of a Negro from Florida to Harlem. Wallace Stegner writes a panoramic view of the Northwest in the 20th century, adventurous, realistic, and indigenous, in *The Big Rock Candy Mountain* (Duell). *Arrows Into The Sun,* a much praised first novel by Jonreed Lauritzen (Knopf), is about the Southwest canyon country and the story of a half-breed Indian.

The Gaunt Woman by Edmund Gilligan (Scribner) could only have come from the life of Gloucester sailormen. *Dunnybrook* by Gladys Hasty Carroll (Macmillan) could only have come from her warm affectionate feeling for Maine. Robert Penn Warren writes a novel of the new industrial South and of the dry rot in Dixie in *At Heaven's Gate* (Harcourt). Ilka Chase's novel *In Bed We Cry* (Doubleday, Doran), very popular, a smart novel of smart New York society with undercurrents of malice and illumination, may logically be classified as a regional novel, though an artificial region. William Saroyan's first novel (later a play), *The Human Comedy* (Harcourt), is of incidents in a Californian town through the eyes of a growing boy.

THE AMERICAN SCENE

A few novels not yet period, not quite regional, may be listed: *The Fountainhead* by Ayn Rand (Bobbs-Merrill), a satire on American civilization; *A Time to Live* by Michael Blankfort (Harcourt), a novel of political, possibly personal implications, of a teacher who shuttles from liberalism to communism and back again; *Search for a Key* by Walter Duranty

(Simon & Schuster), three decades of reporting turned into a novel; *The Trespassers* by Laura Z. Hobson (Simon & Schuster), of the modern emigré from Europe and a career woman in America; *Also The Hills* (Messner) is Frances Parkinson Keyes's story of New Hampshire during the war; *The Turnbulls* by Taylor Caldwell (Scribner) is about an English boy who becomes an American robber baron and has a tragic outcome; *Maria* by Michael De Capite (Day) is the story of an immigrant in America. William March's new book, *Alabama Townfolk* (Little, Brown) is a psychoanalytic study of small-town life. *Danger! Keep Out* is Edward J. Nichols's novel of the oil industry from 1910 to the present (Houghton Mifflin). Vickie Baum's new book might be mentioned here: *Weeping Wood,* the story of rubber in terms of the people who made it a commercial product (Doubleday, Doran).

Sinclair Lewis's *Gideon Planish* (Random House) is another in his series of American portraits, a hard-hitting satire of an unscrupulous promoter who makes himself rich out of charity institutions, democratic conferences and fronts, political intrigues, and so on. The novel was reviewed as neither his best nor his worst, but all conceded that he is as readable as ever. Richard Llewllyn in *None But The Lonely Heart* (Macmillan) changed from his Welsh background to a story of a Dickensian cockney in London. Pearl Buck has written *China Sky* for Triangle Books, with a background of China, a slight novel, but romantic and lively.

Vardis Fisher has written a curious novel in *Darkness and the Deep* (Vanguard) of man-apes and the beginning of group consciousness. James M. Cain continues his early dazzling manner in three short novels called *Three of a Kind* (Knopf) though he intimates in a preface that these may be the last of that style and he will write of "wider implications." Rose Franken continues her Claudia series (the third) in *Another Claudia* (Farrar & Rinehart), carrying Claudia successfully through a nervous breakdown. Mark Van Doren's new novel is *Tilda* (Holt), a tender imaginative story of a girl who rehabilitates an army captain who had lost his wife. Robert Nathan writes another of his fantasies in *But Gently Day* (Knopf), of a present-day soldier transported into the Civil War. Ben Hecht writes a tender story of two Americans during the war in *Miracle in the Rain* (Knopf). James T. Farrell continues his chronicle (the fourth) of Danny O'Neill, of Danny's education in Chicago between 1924 and 1927, more optimistic than before (Vanguard). Frances Winwar writes an ironic character study of the disintegration and integration of two people in *The Sentimentalist* (Harper).

MISCELLANEOUS

A first novel that was popularly discussed was Allan Seeger's *Equinox,* a tragic story of a Freudian nightmare of incest. Mr. Seeger and Betty Smith had been contemporaneous students at the university of Michigan and published their first novels practically at the same time. Another first novel of interest is by Jane Bowles: *Two Serious Ladies* (Knopf), curiously original, psychologically surrealist. *Crossroads* by Erico Verissimo (trans.) is the drama of a Brazilian city (Macmillan). *The Last of Summer* by Kate O'Brien (Doubleday, Doran) is a psychological story that takes place in neutral Ireland during the war. *Capricornia* was a fairly popular novel by Xavier Herbert, dealing with the drama of a white man, a native woman, and a half-caste (Appleton). *The Conspiracy of the Carpenters* has been translated from Hermann Borcharht's novel and is introduced by Franz Werfel (Simon & Schuster). It is a novel of ideas, an allegory of our present moral standards, which have been made out of machines. Ciro Alegria follows his first Latin American prize novel (*Broad and Alien Is the World*) with *The Golden Serpent,* a translated novel to further our understanding of South America (Farrar & Rinehart). *Wild River* by Anna Louise Strong is a story of life in the Soviets (Little, Brown). In *Home Is the Hunter* Gontran de Poncins tells of an old servant who restores something of French civilization in a chateau to its proper position (Reynal). In *Indigo* Christine Weston writes of a planter's life (Scribner). *Those Who Go Against the Current* by Shirley Seifert (Lippincott) is a story of a Spanish merchant and the fur trading of old St. Louis.

SHORT STORIES

The Best American Short Stories of 1943 was edited by Martha Foley (Houghton Mifflin) including Faulkner, Saroyan, Thurber, etc. There is also a year book of the American short story (1942). The *Prize Stories of 1943* (O. Henry Memorial Award) is edited by Herschel Brickell (Doubleday, Doran); the winners are Eudora Welty, Dorothy Canfield Fisher, William Fifield, and Clara Laidlaw. Eudora Welty's new book of short stories is *The Wide Net and Other Stories* (Harcourt), her second collection of fantasy and actuality, background of Mississippi. In *Twenty-five Short Stories* the best of Stephen Vincent Benét's work is collected with an introduction by his brother, William Rose Benét (Sun Dial). Nancy Hale collects 23 stories of nostalgic childhood and a certain anger against the world in *Between the Dark and the Daylight* (Scribner). Sally Benson has collected her short sketches and stories from *The New Yorker* in *Women and Children First* (Random House).

The Last Inspection by Alun Lewis (Macmillan) tells of the distress of an inactive English soldier, during the air blitz, in a series of stories. Robert Coates collects his stories, mostly published in *The New Yorker* in *All the Year Round* (Harcourt), distinguished by their serious psychological intent. Isak Dinesen, the author of *Gothic Tales,* has another book of short stories in *Winter's Tales* (Random House). Short stories of Russia at war have been selected by Mark Van Doren, with a preface, in *The Night of the Summer Solstice* (Holt). Boris Karloff is responsible for a collection *Tales of Terror*—from Poe, Bierce, Bram Stoker, Helen Hull, and others (World Publishing Co.). Dorothy Canfield Fisher has introduced a reprint of eight stories by Leo Tolstoy under the title *What Men Live By* (Pantheon).

AWARDS AND CREDITS

The Pulitzer Prize for 1942 went to Upton Sinclair's *Dragon's Teeth* (Viking). The Harper Prize novel was awarded to Martin Flavin's *Journey in the Dark* (Harper), a regional novel of the upper Mississippi, the portrait of a plain man. *Bridge Against the Sun* by Barbara Bentley (Dodd, Mead) is by the second writer to win the intercollegiate literary fellowship—story of a girl seeking security. In *Our Lady* (Murray & Gee), Upton Sinclair reissues an early work, a parable about Christianity. The Viking Portable Library *Steinbeck* has been selected by Pascal Covici (Viking).

POETRY

By Harold Vinal

Editor, *Voices, a Quarterly of Poetry*

WAR ANTHOLOGIES

Four war anthologies appeared in 1943. Sponsored by The League of American Writers, *War Poems of the United Nations,* edited by Joy Davidman (The Dial Press), contains the work of 150 poems from 20 countries. Many of the translations are by the editor, the American section concentrating on new poets developed by the war and emphasizing a mechanistic and cerebral type of poetry, rather too stylized in its technique. *The Triumph of Life*, edited by Horace Gregory, volume three of the Portable Library (Viking), is the outstanding compilation in this field—a volume of poems of consolation for the English-speaking world. It is notable for fine editing and scholarly approach. *The New Treasury of War Poetry,* edited by George Herbert Clark (Houghton, Mifflin), presents verse by British, American, and Canadian writers and is more in the lyrical vein than the preceding collection. *Reveille,* selected by John Kieran, Grantland Rice, and Daniel Henderson, is an uneven collection of poems by members of our Armed Forces.

OTHER ANTHOLOGIES

The Best Poems of 1942, selected by Thomas Moult (Harcourt, Brace), the twenty-first in this indefatigable series, again offers American readers Mr. Moult's choice of poems from American and British periodicals, accenting perhaps too consistently the editor's leaning toward poetry of the tenuous and lyrical variety, but nonetheless a compilation that is both valuable and indispensable. *The Book of New Poems* (Howell, Soskin), edited by Oscar Williams, leans heavily toward the other extreme, containing work by such poets as E. E. Cummings, W. H. Auden, Louis MacNeice, Stephen Spender, and others of more modern technique, and includes a section of portraits and biographical notes. *American Decade,* edited by Tom Boggs (The Cummington Press), comprises 68 poems, hitherto unpublished. Save for a few contributors, the names are familiar. *Green Mountain Verse,* edited by Helen Hartness Flanders and Enid Crawford Pierce (Farrar and Rinehart), is an excursion in regional poetry, concerned wholly with Vermont. *The Book of Canadian Poetry,* edited by A. J. M. Smith (University of Chicago Press), is recommended heartily to those unacquainted with the poetry of Canada.

THE POETS OF THE YEAR

Besides the two translations of the German poet Holderlin and the French symbolist, Rimbaud, and Yvor Winters' and Richard Eberhart's *Selected Poems,* mentioned elsewhere in this survey under *Translations* and *Collections and Selections,* New Directions, in its estimable series, published six other titles in 1943. *A Satire Against Mankind,* edited by Harry Levin, gives the reader the work of John Wilmot, Earl of Rochester, intellectual and satirist of the seventeenth century. *The Violent,* by Harry Brown, author of the narrative poem, *Bunker Hill,* presents the work of a young poet of high voltage and exciting talent. *And You, Thoreau,* by August Derleth, author of the monumental Sac Prairie Saga, pays tribute to the great naturalist in a series of eloquent nature poems. *The Trial of Lucullus,* by Bertolt Brecht, is a verse play for radio written by this anti-Nazi. *New Poems,* by Dylan Thomas, a young Welchman of singular gifts, and *Sacred and Secular Elegies,* by George Barker, one of England's most esoteric and pyrotechnic poets, completes this list.

NEW VOLUMES BY FAMILIAR POETS

Kenneth Fearing, in *Afternoon of a Pawnbroker and Other Poems,* observes once again with wry irony the American scene (Harcourt, Brace). *Western Star* (Farrar and Rinehart), by the late Stephen Vincent Benét, is a somewhat uneven account of early Americana and only in sections attains the grandeur of the same poet's *John Brown's Body.* Kenneth Patchen, in *Cloth of the Tempest,* succeeds in turn by being memorable and eccentric. Four long poems, the product of the last seven years, make up *Four Quartets,* by T. S. Eliot (Harcourt, Brace). The tenor of the writing is less musical than the title would indicate. A dry, philosophical reflectiveness gives a feeling of aridity. *A Time to Speak,* by Thomas Caldecot Chubb (Fine Editions Press), in so far as it deals with the Deep South, is colorful and robustly indigenous. The remaining poems are more conventional.

Notes Toward a Supreme Fiction, by Wallace Stevens, is a gathering of the work of one of our most advanced and experimental poets, yet deserves serious consideration (Cummington Press). *Dinner Party,* by Jessica Nelson North (Prairie Press), is a volume of lyrics, deft and distinguished. Bonaro W. Overstreet, in *American Reasons* (Macmillan), offers a series of patriotic poems written for the radio and for propaganda purposes. The emotional element is often overstressed. Brought together for the first time, *Last Poems,* by Elinor Wylie, does little, save for a few memorable pages, to sustain this fine poet's reputation (Alfred A. Knopf). In *The Unconquerables,* by Joseph Auslander (Simon and Schuster), we have this poet's impassioned rhetoric at its best, when concerned with paying tribute to the enslaved nations. Certain other, interspersed lyrics fail to reveal the poet in his most fecilitous mood.

The Circus, by Clark Mills (James A. Decker), brings again to the public the work of a brilliant and sensitive poet. Robert P. Tristram Coffin's *Primer for America* (Macmillan) fails to justify this writer's lyrical accomplishments. Too hastily contrived, these poems are occasional in the less significant meaning of the term. John Masefield, in *Wonderings* (Macmillan), explores the memories of his childhood. It is a reflective and at times moving record. *The Fourth Decade,* by Norman Rosten (Farrar and Rinehart), is a frequently too journalistic narrative, but in one section touches eloquently on the Spanish poet, Lorca. John Holmes, in *Map of My Country,* discloses his ability to write with slow fire of the contemporary scene. His technical method is, however, purely traditional. (Duell, Sloan and Pearce).

Leonard Bacon, the Pulitzer Prize Winner, has a new volume, *Day of Fire* (Oxford Press), which adds to his stature as a poet of the first order. The second volume by Selwyn S. Schwartz, *Passages of Refuge* (James A. Decker), contains exciting and electric writing, although there is a suggestion of derivity here and there. Hortense Flexner, in *North Window* (Coward-McCann), remains a clear-thinking and witty poet, whose lyrical competence is both enjoyable and adroit. Dorothy Hobson, founder of the League to Support Poetry, is represented by *Let There Be Light* (League to Support Poetry). Here are occasional lyrics and a narrative dealing with John Keats.

FIRST VOLUMES

Across the Board, by David Cornel De Jong (Harper), introduces a poet contemporary in style but whose work is chiefly concerned with the land and his identification with it. A first volume of importance. *This Is My Beloved,* by Walter Benton, proved to be a provocative and much-discussed collection. Frankly concerned with carnal love, the book reveals power and technical assurance (Alfred A. Knopf). Fine craftsmanship and lyrical intensity mark the poems of Lenore Marshall, whose *No Boundary* (Henry Holt) has had much favorable notice. *Who Dare to Live,* by Frederick B. Watt (Macmillan), is frequently a stirring chronicle of the war years, but misses somewhat in subtlety. In *Poems,* by Dunstan Thompson (Simon and Schuster), there is a quality of imagism infusing traditional material. Uneven in texture are the contents of *The Bright Plain,* by Charles Edward Eaton (University of North Carolina). Too much facility mars the total effect of this collection. *Louder than the Drums,* by Gerard Previn Meyer (League to Support Poetry) is a first book of considerable promise. Profundity without obscurity distinguish the work of this young poet. From a Canadian poet comes *Heart of the Phoenix,* by A. J. M. Smith (Coward-McCann). Intellectual vitality lifts these poems above the average.

COLLECTIONS AND SELECTIONS

Hitherto available only in limited

editions, the poetry of James Daly, *Poems 1923-1943* (The Dryden Press), is here presented in a single volume. Further recognition should come as a result of this collection, which contains much writing of imaginative quality. *The Giant Weapon,* by Yvor Winters, is this author's own selection of his best work up to the present time (New Directions). *New and Selected Poems,* by Richard Eberhart, are cerebral in character and belong to the obscurantist school (New Directions). *Collected Poems,* by William Alexander Percy, gathers between covers at last all the published work of this Southern poet. A posthumous volume, it discloses a lyrical gift of notable distinction (Alfred A. Knopf).

A Choice of Kipling's Verse, surprisingly selected by T. S. Eliot, with an introductory essay on this perdurable figure of English literature, should be a welcome compendium to the general public (Scribner's). *Twelve Spanish-American Poets,* an anthology edited by H. R. Hays, introduces some little known poets to North American readers (Yale University Press). *Selected Poems, 1927-1943,* by Robert Penn Warren (Harcourt, Brace), includes representative work from two previously issued volumes. The author is one of the Fugitive Group, a Southern poet of modern tendency.

In a companion volume to her *Collected Sonnets, Collected Lyrics,* by Edna St. Vincent Millay, is now available. Of unquestionable importance and lasting splendor, these poems are a monument to one of America's most admired poets (Harper). Robert Frost, winner of the Pulitzer Award for the fourth time, and a name familiar to all readers, appears under the discriminating editorship of Louis Untermeyer, who has selected over 80 poems by this dean of American poets and assembled them in the form of an anthology, with running comments (Henry Holt).

Frederick Mortimer Clapp, in *Against a Background of Fire,* has collected his poems written between the years of 1938 and 1943. This is a work of intellectual and muscular power, incisely pictorial (Harper). Edited by Catherine Connell, *Love Poems Old and New* (Random House), is an excellent pocket anthology of wide range. It is neither cloying nor hackneyed.

TRANSLATIONS

The Illuminations (New Directions), a translation by E. Roothan, presents the symbolist prose poems of the French writer, Arthur Rimbaud. It is one of the Poets of the Year Series. Frederic Prokosch has rendered in suave English *The Poems of Frederick Hölderlin,* called the German Shelley (New Directions). *The Vigil of Venus* (Pervigilium Veneris), the Latin text translated by the scholarly southerner, Allen Tate, contains an informative introduction (The Cummington Press). *Poems,* by Rainer Maria Rilke, Englished by Jessie Lemont, is the result of 30 years of work by the translator (Columbia University Press).

LIGHT VERSE

In an omnibus volume containing the arch peregrinations of Archy the immortal cockroach, the publishers have made available Don Marquis' gay and slyly ironic poems. *The Lives and Times of Archy and Mehitabel* is a major contribution to American humor (Doubleday, Doran). In this, Arthur Guiterman's last and valedictory volume, a witty and kindly poet leaves his legacy to those who appreciate light verse at its sparkling best (Dutton). *Autolycus in Limbo,* by Vincent Starrett (Dutton), is an agreeable collection of subtly ironic verse.

VARIOUS VOLUMES

Time of Year, by Samuel French Morse; *Land of Unlikeness,* by Robert Lowell (Cummington Press). *East of Bridgewater,* by Ann Batchelder (E. P. Dutton). *The Flawless Stone,* by Frank Kendon (Cambridge University Press). *In Plato's Garden,* by Lincoln Fitzell (Alan Swallow). *En-*

rico Considers, by James Russell McCarthy (James A. Decker). *Fragile Armor,* by Frances Angevine Gray (The Torch Press). *Trance Above the Streets,* by Harold Rosenberg (Gotham Book Mart). *The Sun at Noon,* by James Hearst (Prairie Press). *Arenas,* by Tom Boggs (Coward-McCann). *Abigail's Sampler,* by Helen Frith Stickney; *Free Enterprise,* by Mary Ballard Duryee (Fine Editions Press). *Poems of the New World,* by Alfred Noyes (Lippincott). *The Proud People,* by Joseph Joel Keith (Wings Press). *Sky-Color,* by Isabel Fiske Conant (Kaleidograph Press). *The American Way of Poetry,* by Henry W. Wells (Columbia University Press). *Green Vistas,* by Stanton A. Coblentz (Wings Press). *Collected Poems of Henry Thoreau,* edited by Carl Bode (Packard).

BROCHURES

The Ballad of John Castner, by A. M. Sullivan (Fine Editions Press). *Mortal Hunger,* by Gustav Davidson (Alan Swallow). *Songs for America,* by Sydney King Russell (Fine Editions Press). *The Twittering Self,* by Edward Duro (Swallow Pamphlets). *Winter Solstice,* by Gerald Bullett (Cambridge University Press). *Seventeen and One,* introduced by Alfred Kreymborg (Bruce Fitzgerald). *The Virginia Poems,* by Francis Coleman Rosenberger (Gotham Book Mart). *XI Poems,* by Alan Swallow (Prairie Press). *Armageddon,* by Stanton A. Coblentz (Wings Press).

HISTORY

BY OSCAR HANDLIN
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THE WAR'S EFFECT ON HISTORICAL RESEARCH

The debilitating effect of the war upon the teaching, the writing, and the study of history became more pronounced in the second year after Pearl Harbor. The drain upon manpower continued, with ever increasing numbers leaving academic life for the armed forces and for service with other wartime agencies. For those who remained in their classrooms, heavier loads and the unaccustomed problems imposed by the army and navy training programs combined to reduce the hours left for the library. At the same time, the inaccessibility of many source collections and the difficulty of travel rendered the tasks of research more arduous. The marked falling-off in the number of serious works published in the field does not therefore represent the full measure of damage done by the war. Many works are the products of years of labor and the consequences of current impediments to research will be felt through the next decade. Meanwhile the virtual disappearance of graduate study cut off the training of new scholars, foreshadowing a long readjustment after the peace.

The negative influences have not been counterbalanced by many positive gains. The war has had only slight effect upon the fields of historical enquiry, and the challenge of the problems of war has evoked no noteworthy response. Those concerned with the future of the historical discipline in America can only hope that the young men now passing through this great social trial may gain from it and bring to their later studies a new measure of insight and human understanding.

PRIZES

The American Historical Association awarded its Dunning Prize for a work in American history to Oscar Handlin's *Boston's Immigrants*, and its Adams Prize for a work in European history to E. H. Harbison's *Rival Ambassadors in the Court of Queen Mary*. The Pulitzer Prize committee dipped into the field of popular biography for its award in American history, choosing Esther Forbes' *Paul Revere and the World He Lived In.*

GENERAL HISTORY

J. W. Thompson's *History of Historical Writing* (Macmillan), completed by B. J. Holm after the death of the president of the American Historical Association in 1941, is an exhaustive, learned, and detailed study, in two volumes, of the main streams of 2,000 years of historiography. Of more general interest are the five essays on the role of the historian, edited by J. R. Strayer in *Interpretation of History* (Princeton). Sidney Hook's *Hero and History* (John Day) is a philosopher's estimate of the role of personality in history, and S. J. Case's *Christian Philosophy of History* (Chicago) is a general view by a Protestant theologian. H. C. Lea's *Minor Historical Writings* (Pennsylvania) contains a collection on diverse subjects, and Eric Fisher's *Passing of the European Age* (Harvard) deals in a general way with the transition of European culture to new grounds and its transformation into new forms.

Broad treatments of religious history will be found in K. S. Latourette's *Great Century in the Americas, Australasia and Africa A.D. 1800-A.D. 1914* (Harper), the fifth volume of his scholarly history of the expansion of Christianity, and in Father Joseph McSorley's *Outline of History: the Church by Centuries* (Herder), a compilation of the history of Catholicism from St. Peter to Pius XII.

Other subjects are surveyed across long periods in *Makers of Modern Strategy. Military Thought from Machiavelli to Hitler,* edited by E. M. Earle (Princeton), R. A. Leonardo's *History of Surgery* (Froben), Frederick Dorian's *History of Music in Performance* (Norton), and S. J. Hemleben's *Plans for World Peace Through Six Centuries* (Chicago).

THE UNITED STATES

In 1943 Charles A. Beard capped a distinguished career devoted to the understanding of American development with the publication of two noteworthy works. A whole generation of scholars have explored the trails he first marked out, and he himself put together a suggestive synthesis more than a decade ago. Now he gives us the fruits of his reflections in two volumes, not strictly historical, but perhaps better suited to the flow of his ideas. *The American Spirit* (Macmillan), written by Mary R. Beard, is an inquiry into the idea of civilization in the United States, a study of the social aspirations, conscious and unconscious, of the American people. *The Republic* (Viking) is an analysis of the basis of American constitutional government. Both are richly rewarding; even those who disagree with their mature conclusions will find them at once a stimulus and guide to further investigations.

COLONIAL HISTORY

Studies in this field deal largely with the revolutionary movement and the war for independence. Works on earlier aspects of the period include H. F. Howe's *Prologue to New England* (Farrar & Rinehart), an account of the explorers and settlers who preceded the Massachusetts Bay Company; M. P. Andrews' *Soul of a Nation* (Scribner's), the story of the settlement of Virginia; and *Parliamentary Privilege in the American Colonies* by M. P. Clarke (Yale), but the most important books focus on the two decades after 1770. E. B. Greene's *Revolutionary Generation 1763-1790* (Macmillan), the fourth volume in the *History of American Life Series,* gives a comprehensive account of American society in those critical years. J. C. Miller's *Origins of the American Revolution* (Little, Brown) summarizes the newer thinking of the last quarter-century on that subject. *Mutiny in January* (Viking) is a vivid account by Carl Van Doren of dissension in the revolutionary armies of Pennsylvania. More detailed subjects are treated in M. B. MacMillan's *War Governors in the American*

Revolution (Columbia) and Allen Bowman's *Morale of the American Revolutionary Army* (American Council on Public Affairs).

SOCIAL AND INTELLECTUAL HISTORY

Recent emphasis on social history has drawn attention to the problem of identifying the nature of American nationality, of delineating the traits which may properly be ascribed to our national character. Three volumes made that attempt in 1943. J. T. Adams' *American: the Making of a New Man* (Scribner's) uses more historical material than Hamilton Basso's *Mainstream* (Reynal & Hitchcock), but the same picture emerges from both, and in both it is limited and distorted. G. A. Kennedy's *Who Are the Americans?* (Paebar) draws attention to some factors they neglect, but is in turn one-sided. Far closer to the heart of the problem than any of these is the penetrating presidential address of A. M. Schlesinger before the American Historical Association in December, 1942, *What Then, Is This New Man, This American?* (Macmillan).

The most notable work in intellectual history is Merle Curti's *Growth of American Thought* (Harper), an intelligent and discriminating account of the evolution of many facets of American thought since the colonial period. More detailed works in this field include Leon Howard's *Connecticut Wits* (Chicago), Albert Post's *Popular Freethought in America, 1825-1850* (Columbia), Sidney Warren's *American Freethought 1860-1914* (Columbia), and J. F. Normanno's *Spirit of American Economics* (John Day).

Aaron I. Abell's *Urban Impact on American Protestantism 1865-1900* (Harvard), H. M. J. Klein's *History of the Eastern Synod of the Reformed Church in the United States* (Eastern Synod), G. G. Atkins, *History of American Congregationalism* (Pilgrim Press), and R. K. Nuermberger's *Free Produce Movement* (Duke), the story of a Quaker protest against slavery, are contributions to religious history in the United States.

Other works in the field of social and intellectual history cover a wide range of material. G. W. Johnson's *American Heroes and Hero-Worship* (Harper) analyzes reputations, chiefly political. H. M. Robinson's *Fantastic Interim* (Harcourt, Brace) is a journalistic account of the period from Versailles to Pearl Harbor. *The History of Bigotry in the United States* (Random House) is a broad survey by Gustavus Myers. More specialized works include E. E. Guillot's *Social Factors in Crime: as Explained by American Writers of the Civil War and Post-Civil War Period* (Pennsylvania), Martha Branscombe's *Courts and the Poor Laws in New York State 1784-1929* (Chicago), Volume I of Philip Kinsley's *Chicago Tribune: Its First Hundred Years* (Knopf), and *The Origins of American Sociology* by L. L. and J. Bernard (Crowell).

RACIAL AND NATIONAL GROUPS

Attention in this field focuses primarily on the Negro, but there are scattered works on other groups: C. A. Weslager's *Delaware's Forgotten Folk* (Pennsylvania), a study of the Moor and Nanticoke Indians, Earl F. Robacker's *Pennsylvania German Literature* (Pennsylvania), L. M. Friedman's *Jewish Pioneers and Patriots* (Macmillan), and Nels Hokanson's *Swedish Immigrants in Lincoln's Time* (Harper). Research on the status of the colored people, before and since freedom, was, however, more intensive and broader in scope. E. R. Embree's *Brown Americans* (Viking) is a general study. Three scholarly volumes look at the Negro under conditions that were relatively favorable: L. J. Greene investigates the status of *The Negro in Colonial New England, 1620-1776* (Columbia); J. H. Franklin makes a fine study of *The Free Negro in North Carolina, 1790-1860* (North Carolina); and *Free Negro Labor and Property Holding in Virginia 1830-1860* (D. Appleton-Century) is analyzed by L. P. Jackson. A darker aspect of the subject is set forth by Herbert Aptheker in *American Negro Slave Revolts* (Columbia).

ECONOMIC HISTORY AND GEOGRAPHY

The *Atlas of American History* edited by J. T. Adams (Scribner's) does not altogether fill the long-felt need for such a work but is nonetheless useful and welcome. Three works deal with the physical basis of American history. W. R. Van Dersal's *American Land* (Oxford) is a survey, R. H. Brown's *Mirror for Americans* (American Geographical Society) is an account of the resources of the eastern states as of 1810, and *Years of This Land* (D. Appleton-Century) by H. R. Muelder and D. M. Delo is a geographical history.

The origins of two industries that are important now and that will continue to grow in importance are investigated by Malcolm MacLaren in *The Rise of the Electrical Industry in the Nineteenth Century* (Princeton), and by Jeremiah Milbank, Jr. in *The First Century of Flight in America* (Princeton). Carl Crow's *Great American Customer* (Harper) is a popular study of mass production and the inventive process. Other works on the economic history of the United States include C. H. Pritchett's *Tennessee Valley Authority* (North Carolina), J. W. Thompson's *History of Livestock Raising in the United States, 1607-1860* (U. S. Department of Agriculture), T. S. Berry's *Western Prices before 1861* (Harvard), a work based on the fluctuations in the Cincinnati market, G. W. Van Vleck's analysis of *The Panic of 1857* (Columbia), and Sister G. M. Madeleine's summary of *Monetary and Banking Theories of Jacksonian Democracy* (Dolphin) from 1826 to 1842. N. S. B. Gras' *Harvard Cooperative Society Past and Present, 1882-1942* (Harvard), R. H. Hower's *History of Macy's of New York, 1858-1919* (Harvard), and Marquis James' *Biography of a Business* (Bobbs-Merrill), an account of the Insurance Company of North America, are studies in business history.

HISTORY OF THE WEST

The most interesting book on the westward movement is Bernard DeVoto's *Year of Decision: 1846* (Little, Brown), an attempt to apply some of the techniques of the novelist to the problems of the historian. Although the thesis implicit in the title is hardly convincing, and although the effort at dramatic presentation sometimes breaks down, the work contains many fine insights, particularly of the character of the personalities involved in the Mexican War, the acquisition of California, and the settlement of Utah.

In *Caesars of the Wilderness* (D. Appleton-Century), G. L. Nute gives a substantial account of seventeenth century French explorers. P. W. Gates continues his scholarly investigations into the history of the public lands with a case study, *Wisconsin Pine Lands of Cornell University* (Cornell). More popular in form are L. V. Hammer's *Short Grass and Longhorns* (Oklahoma), the story of the Panhandle; S. H. Holbrook's *Burning an Empire* (Macmillan), a history of forest fires; and I. D. Paden's *Wake of the Prairie Schooner* (Macmillan), a description of emigrant trails across the plains to the Pacific between 1812 and 1868.

CONSTITUTIONAL LAW AND POLITICS

Three works in this field are particularly noteworthy. In *American Political Parties: Their Natural History* (Knopf), W. E. Binckley gives an incisive analysis of the character and structure of the major parties and their role in American history. H. S. Commager's *Majority Rule and Minority Rights* (Oxford) contains a series of suggestive essays on the relationships between democracy, particularly Jeffersonian democracy, and the courts' doctrine of judicial review. C. B. Swisher's *American Constitutional Development* (Houghton, Mifflin) embodies the results of much recent research in the best one-volume summary of the subject.

Lincoln and the Patronage by H. J.

Carman and R. H. Luthin (Columbia), and D. G. Fowler's *Cabinet Politician* (Columbia), a study of the Postmaster Generalship between 1892 and 1909, deal with the ties between office-holding and politics. Irving Stone's *They Also Ran* (Doubleday, Doran) is a popular account of some defeated candidates for the presidency. Other works include C. W. Stern's *Third-Term Tradition* (Columbia), Alden Whitman's *Labor Parties 1827-1834* (International), and *Theodore Roosevelt and Labor in New York State, 1880-1900* (Columbia), by H. L. Hurwitz.

DIPLOMATIC HISTORY

Though the war might have been expected to generate interest in foreign affairs, few significant works appear in this field. S. F. Bemis' *Latin-American Policy of the United States* (Harcourt, Brace) is an authoritative summary. *Sea Lanes in Wartime: The American Experience* by R. G. Albion and J. B. Pope (Norton) is a history of merchant shipping in war since 1775. G. S. Bryan's *Spy in America* (Lippincott) and H. G. Warren's *Sword Was Their Passport* (Louisiana State), an account of the filibusters, are general narratives. The history in Walter Lippman's *U. S. Foreign Policy: Shield of the Republic* (Little, Brown) is flimsy and unconvincing.

LOCAL HISTORY

Ohio in the Twentieth Century by Harlow Lindley is the sixth and concluding volume in the cooperative history of that state (Ohio State Archaeological and Historical Society). State histories include J. K. Howard's *Montana: High, Wide and Handsome* (Yale), J. K. Bettersworth's *Confederate Mississippi* (Louisiana State), F. G. Davenport's *Ante-Bellum Kentucky* (Mississippi Valley), a social history, and *Plantation Life in the Florida Parishes of Louisiana, 1836-46,* drawn from the diary of B. H. Barrow by E. A. Davis (Columbia). *This Was New York* by Frank Monaghan and Marvin Lowenthal (Doubleday, Doran), a description of the city in 1789, Angie Debo's *Tulsa: from Creek Town to Oil Capital* (Oklahoma), H. E. Johnson's *Musical Interludes in Boston, 1795-1830* (Columbia), G. W. Stark's *City of Destiny: the Story of Detroit* (Powers), and H. G. Stetler's *Socialist Movement in Reading, Pennsylvania, 1896-1936* (author) are municipal histories.

LATIN AMERICA

Recent interest in our neighbors of the Western Hemisphere seems to have been diverted to other fields as the war brought new areas into prominence. Only three works appear on our list. N. M. Crouse's *French Struggle for the West Indies 1665-1713* (Columbia) is a detailed study. *The Wind that Swept Mexico* by Anita Brenner and G. R. Laguton (Harper) gives the story of the Mexican revolution between 1910 and 1942. T. H. Reynolds' *Progress of Pan-Americanism* (Public Affairs Press) is a survey of Latin-American opinion.

ANCIENT AND MEDIEVAL HISTORY

General works in 1943 contributed to the understanding of three ancient civilizations. The second volume of Werner Jaeger's *Paidea* (Oxford) recreates with masterly breadth the ideals of Greek culture. E. K. Rand's *Building of Eternal Rome* (Harvard) brings together the fruits of many years of learning. Curt Sachs describes *The Rise of Music in the Ancient World* (Norton) in an impressive volume which comes down to the opening of the Middle Ages. Finally, *The Legacy of Egypt,* a symposium edited by S. R. K. Glanville (Oxford) traces the heritage of the societies on the Nile. In a later period, George Vernadsky's *Ancient Russia* (Yale), the first volume in a series, carries the history or pre-history of that country down to the coming of the Varangians. More specialized works include W. A. McDonald's *Political Meeting Places of the Greeks* (Johns Hopkins), *Early*

Pythagorean Politics in Practice and Theory (Connecticut College) by E. L. Minar, Jr., R. S. Rogers' *Studies in the Reign of Tiberius* (Johns Hopkins), and Catherine Boyd's *Cistercian Nunnery in Medieval Italy* (Harvard), an account of Rifreddo in Saluzzo between 1220 and 1300.

CONTINENTAL EUROPE

Hardest hit by the war, this field nevertheless contributes a number of notable works, the products of earlier research. In economic history, A. P. Usher's *Early History of Deposit Banking* (Harvard) is a monumental study emphasizing Spanish and Italian origins, and C. W. Cole's *French Mercantilism 1683-1700* (Columbia) continues his earlier studies on the period of Colbert. Worthwhile scholarly works appear on several limited phases of European history. H. F. Schwartz's *Imperial Privy Council in the Seventeenth Century* (Harvard) is a study of Hapsburg administration. J. B. Sirich's *Revolutionary Committees in the Departments of France, 1793-1794* (Harvard), W. C. Askew's *Europe and Italy's Acquisition of Libya, 1911-1912* (Duke), Adolf Sturmthal's *Tragedy of European Labor, 1918-1939* (Columbia), and Georges Kaeckenbeck's *International Experiment in Upper Silesia* (Oxford) treat specialized areas on the continent. Volumes of more general interest include J. S. Parson's *Royalty in the Nineteenth Century* (Bruce Humphries), an anecdotal account, Gerald Brennen's *Spanish Labyrinth* (Macmillan), S. H. Thomson's *Czechoslovakia in European History* (Princeton), and Paul Winkler's *Thousand-Year Conspiracy* (Scribner's), a careless and inaccurate history of Germany.

ENGLAND AND THE BRITISH EMPIRE

The most important works in this field are monographic studies. Mildred Campbell's *English Yeoman under the Early Stuarts* (Yale) is a social history; H. E. Witmer's *Property Qualifications of Members of Parliament* (Columbia) is a study of the act of 1710; B. H. Brown's *Tariff Reform Movement in Great Britain* (Columbia) covers the period from 1881-1895; and Karl de Schweinitz's *England's Road to Social Security* (Pennsylvania) is a survey of the problem since 1349. Less thorough is Arthur Bryant's *Years of Endurance: 1793-1802* (Harper), a rather superficial account of the struggle against France.

On the overseas empire, L. B. Wright's *Religion and Empire* (North Carolina) contains a series of essays on English expansion, 1558-1625. Specialized studies include A. N. Cook's *British Enterprise in Nigeria* (Pennsylvania), Cecil Johnson's *British West Florida* (Yale), an analysis of the twenty years of English occupation, and Edward Thompson's *Making of the Indian Princes* (Oxford) in the nineteenth century.

HISTORY OF THE JEWS

S. W. Baron's *Jewish Community* (Jewish Publication Society) is a three-volume study of the structure of Jewish society down to the American revolution. Joshua Trachtenberg's *Devil and the Jews* (Yale) recreates the medieval conception of the Jews. Solomon Zeitlin's *Religious and Secular Leadership* (Dropsie) is a study of the conflict in Jewish life from the period of the second commonwealth to the time of Maimonides. *American Intercession on Behalf of Jews in the Diplomatic Correspondence of the United States 1840-1938* (Jewish Publication Society), and Jacob Shatzky's *Jewish Educational Policies in Poland from 1806 to 1866* (Yiddish Scientific Institute) treat more detailed subjects.

ASIA AND AFRICA

The exigencies of global war have turned popular attention to these areas, usually neglected by American historians, and have led to a number of useful surveys. E. A. Falk's *From Perry to Pearl Harbor* (Doubleday, Doran) discusses the struggle for supremacy in the Pacific since 1853;

P. K. Hitti's *Arabs* (Princeton) summarizes his earlier work on the same subject; and Eliahu Ben-Horin's *Middle East: Crossroads of History* (Norton) describes lucidly recent developments in that troubled area.

More detailed studies in the history of these two continents make greater permanent contributions. F. E. Bailey's scholarly monograph, *British Policy and the Turkish Reform Movement* (Harvard), deals with Anglo-Turkish relations between 1826 and 1853. R. R. DeMarco's *Italianization of African Natives* (Teachers' College) examines educational policies in the Italian empire, 1890-1937. *Nusantara* by B. H. M. Vlekke (Harvard) is a history of the East Indian archipelago. In the field of Chinese studies, C. M. Wilbur has produced a history of *Slavery in China during the Former Han Dynasty* (Field Museum).

WAR BOOKS

By Helen F. Conover
Division of Bibliography, Library of Congress

GENERAL

Much of the writing in 1943 naturally had to do with the Second World War. Week by week the war books pour off the presses, adding their overwhelming chapter to the incredible tale of the sufferings, endurance, and heroism of mankind. They are of all descriptions, correspondents' reports, personal narratives, studies of all branches of military science and war economics, plans for the post-war world, and analyses of every phase of the life of armed forces and civilians under war conditions. They follow each other in rapid succession on the best seller lists. It is possible in a review of this nature to touch only high lights, in several well-defined categories.

WORLDWIDE

The most widely known global journey, Wendell Willkie's *One World*, is included under the head of Post-war Plans. Eve Curie, daughter of the scientist, traveled in 1942 through Africa, Russia, and Asia as representative of Free France, and the resulting book, *Journey among Warriors* (Doubleday, Doran) describes worldwide struggle and spirit. Vincent Sheean in *Between the Thunder and the Sun* (Random) has written another "Personal History," interpreting through his experience the pre-war life of Europe's privileged class, the political scene in France before 1940, Britain under bombardment, America, China, and the Pacific Islands just before Pearl Harbor. William Watts Chaplin's *Seventy Thousand Miles of War* (Appleton-Century) is "one man's Odyssey on many fronts," covering the human side of war on five continents. Otto Zoff, in his heart-breaking yet inspiring *They Shall Inherit the Earth* (Day), studies the impact of war on children throughout the world.

EUROPE

The Ten Commandments (Simon & Schuster) are ten short novels based on fact, illustrating Hitler's war against the moral code. The first story, "Thou Shalt Have No Other Gods Before Me," is by Thomas Mann, and stories titled by the other commandments by Rebecca West, Franz Werfel, John Erskine, and others of like stature. R. G. Massock's *Italy from Within* (Macmillan) and Herbert L. Matthews's *The Fruits of Fascism* (Harcourt), two books by reporters of long experience, cover the background of fascism and its culmination in an unhappy nation in war and approaching defeat. Thomas J. Hamilton in *Appeasement's Child* (Knopf) describes the Franco régime in Spain. *Paris—Underground* (Scribner), by Etta Shiber, the Book-of-the-Month Club section for October, is the astonishing tale of two retiring women who, almost by accident and with increasingly supreme courage, developed a successful underground railway for the escape of English soldiers from France. *They Shall Not Have Me,* by Jean Hélion (Dutton) reveals the horror of Nazi enslavement in the capture, forced labor, and escape of a French prisoner of war. The tragedy and heroic resistance after defeat of southeastern Europe is depicted in Michael Padev's *Escape from the Balkans* (Bobbs-Merrill), Ruth Mitchell's *The Serbs Chose War* (Doubleday, Doran), and Elizabeth Wason's *Miracle in Hellas* (Macmillan).

RUSSIA

Maurice Hindus, who for 20 years has written of the Russian scene, gives in his *Mother Russia* (Doubleday, Doran) a brilliant résumé of the history and achievements of the Soviet Union and a warm picture of the country and people in their supreme endeavor. Three correspondent accounts of wartime Russia at and behind the front come from the pens of James E. Brown—*Russia Fights* (Scribner)—, Walter Graebner—*Round Trip to Russia* (Lippincott)—, and Larry Lesueur—*Twelve Months That Changed the World* (Knopf). Henry C. Cassidy in his account of two years' star reporting, *Moscow Dateline, 1941-1943* (Houghton, Mifflin) includes the famous "scoop" of his correspondence with Stalin on the second front. The siege which turned the tide toward victory is reported from the ruined city front by Boris Voyetekhov, correspondent of *Pravda,* in *Last Days of Sevastopol* (Knopf).

ENGLAND

The official story of the commandos, *Combined Operations* (American edition, Macmillan) is issued by the British Combined Operations Command, with a foreword by its former leader, Lord Louis Mountbatten. It describes the organization and training of the corps and recounts its exploits at Vaagso, St. Nazaire, Dieppe, and elsewhere. There are two eyewitness accounts of the Dieppe raid, one by Quentin Reynolds, *Dress Rehearsal* (Random), and one by an English newsman, Alexander Berry Austin, *We Landed at Dawn* (Harcourt). Major Jack Redding and Captain Harold I. Leyshon, in *Skyways to Berlin* (Bobbs-Merrill) have chronicled the American flyers in England, and *Target: Germany* (Simon & Schuster) is the authorized Army Air Force's story of the Eighth Bomber Command's first year over Europe. It was prepared in cooperation with *Life,* in which magazine a part of the text and photographs appeared.

AFRICA

Frank Gervasi, *Collier's* reporter, writes again of South America and Africa in *But Soldiers Wondered Why* (Doubleday, Doran). Alan Moorehead, correspondent of the *London Daily Express,* whose *Mediterranean Front* in 1942 began the chronicle of the British Eighth Army, has this year watched Auchinleck's holding action against Rommel in *Don't Blame the Generals* (Harper), including a side view of the Cripps Mission to India, and in *The End in Africa* (Harper) follows Montgomery's victorious advance from El Alamein to Tunis. *American Guerrilla* (Bobbs-Merrill), by Captain Douglas M. Smith, as told to Cecil Carnes, is the exciting experience of Foreign Legion commandos fighting behind the enemy lines at El Alamein, Tobruk, and Bengasi. Two ambulance drivers of the American Field Service give their picture of desert war, Andrew Geer in *Mercy in Hell* (Whittlesey), and Evan Thomas in *Ambulance in Africa* (Appleton-Century).

The Allied landing in North Africa and the Tunisian campaign produced many books. Correspondents attached to Eisenhower's army reported action and interpreted diplomacy of Vichy and Algiers: Samuel Dashiell in *Victory through Africa* (Smith & Durrell); John MacVane in *Journey* *into War* (Appleton-Century); Wesley Gallagher in *Back Door to Berlin* (Crowell). Captain Ralph M. Ingersoll, former editor of *P.M.* who in 1942 covered the world in his *Action on All Fronts,* describes in *The Battle Is the Pay-Off* (Harcourt) a day of fighting in which he was a participant. Eagerly welcomed by the many devoted readers of his human-angle column, Ernie Pyle's *Here Is Your War* (Holt) is collected from the stories he sent back from North Africa. *Assignment to Nowhere* (Vanguard), a reporter's coverage of the entire Battle of Tunisia, is by Lowell Bennett, the correspondent now reported missing over Berlin.

The second step of the Allied advance on Fortress Europa is signalled by *To All Hands, an Amphibious Adventure* (Whittlesey), by Lieut. John Mason Brown. The former drama critic and lecturer is now in the Navy, and from the bridge of the American flagship broadcast to the men at their battle stations move by move of the invasion of Sicily.

MALTA

The island fortress to which King George awarded the George Cross "to bear witness to heroism and devotion that will long be famous in history," is celebrated in a number of books, among them Major Francis Gerard's *Malta Magnificent* (McGraw-Hill), and *Malta Epic* by Ian Hay (Gen. John Hay Beith).

THE PACIFIC

Ian Morrison's *Our Japanese Foe* (Putnam) provides background information about the organization, ways, and psychology of the enemy. Personal experiences of correspondents in Tokyo before and after Dec. 7, 1941 are given by O. C. Tolischus in *Tokyo Record* (Reynal & Hitchcock) and C. D. Alcott, *My War With Japan* (Holt). Giles Playfair, BBC broadcaster for Radio Singapore, presents his tragic account of the last nine weeks of the British fortress in *Singapore Goes Off the Air* (Dutton). George Weller's *Singapore Is Silent* (Harcourt, Brace) is an account by a Chicago journalist of the Malayan disaster and Japanese methods of jungle warfare. The terrible retreat of Stilwell's army through the hostile jungle into India culminates the 20-year experience of a medical missionary in Gordon S. Seagrave's *Burma Surgeon. I Served on Bataan* (Lippincott) is the narrative of Lieut. Juanita Redmond, one of 22 nurses evacuated by plane from the Philippines to Australia. James Hilton in *The Story of Dr. Wassell* (Little, Brown) tells how a navy doctor from Arkansas rescued his wounded in vanquished Java. W. L. White's *Queens Die Proudly* (Harcourt) is the tale of the only survivors of a flying fortress squadron after the Philippine and Java campaigns.

Naval action in the entire Pacific theatre is described by a number of pressmen, Clark Lee Gould in *They Call It Pacific* (Viking), Robert A. Casey in *Torpedo Junction* (Bobbs-Merrill), Keith Wheeler in *The Pacific Is My Beat* (Dutton). *Last Man Off Wake Island* (Bobbs-Merrill), told by Lieut. Col. Walter J. Baylor of the Marines to Cecil Carnes, is a personal narrative, as are *Long Were the Nights* (Dodd, Mead), by Hugh B. Cave and others of the P.T. Squadron "X" patrolling the waters between Guadalcanal and Tulagi, and Lieut. Commander Griffith Bailey Coale's second striking book of pictures plus story, *Victory at Midway* (Farrar & Rinehart). *Guadalcanal Diary* (Random), by Richard Tregaskis, and *Battle for the Solomons* (Houghton, Mifflin) by Ira Wolfert are by correspondents with the Marines. In *Torpedo 8* (Houghton, Mifflin) Wolfert chronicles one particular bomber squadron, the famous group under Captain "Swede" Larson.

Fight for New Guinea (Random) by correspondent Pat Robinson, covers General MacArthur's first offensive of the Buna campaign. John R. Hersey, author of *Men on Bataan* (1942) tells in *Into the Valley* (Knopf) a poignant story of one small skirmish of marines on Guadalcanal. Captain Eddie Rickenbacker describes his shipwreck in the Pacific in *Seven Came Through* (Doubleday, Doran). Col. Robert L. Scott, author of *God Is My Co-Pilot* (Scribner), is a flyer with Chennault's Tigers in China. Capt. Ted W. Larson in *Thirty Seconds over Tokyo* (Random) gives a participant's story of the Doolittle raid, and the prolonged horror of his return through occupied China. Howard Handleman, in *Bridge to Victory* (Random), and Corey Ford, in *Short Cut to Tokyo* (Scribner), describe the Kiska battles and the reconquest of the Aleutian Islands.

THE SERVICES

In *The Army Reader,* edited by Lieut. Col. Karl Detzer (Bobbs-Merrill) there are collected 100 authentic articles on the branches of the service —ground, air, supply forces, WACS, nurses, and narratives of action on all fronts. Royalties go to Red Cross. *A Book of War Letters,* edited by Harry E. Maule (Random) brings first-hand reports from our boys and girls in training and overseas. Gilbert Cant, whose *War at Sea* appeared in 1942, continued his history in *America's Navy in World War II* (Day), covering naval action from Pearl Harbor to the end of 1942. His appendices give full tables of decorations presented to the Navy, and of Japanese and American ship losses through 1942. *The Navy at War* (Morrow), published by arrangement with the Navy Department, is a collection of drawings by five official Navy artists, with commentary by Hanson W. Baldwin. John Knox's *Wings of War* (Macmillan) describes the air transport services, and Robert Carse chronicles the Merchant Marine in *Lifeline* (Morrow). Col. Julia O. Flikke relates the history and describes the present role of the Army Nurse Corps in *Nurses in Action* (Lippincott). The absorbing story of the dogs and other animals used in war is told by Richard Dempewolff, in *Animal Reveille* (Doubleday, Doran).

THE HOME FRONT

The Department of State released on Jan. 2, 1943 a summary of the United States foreign policy from 1931 to 1941, *Peace and War* (Government Printing Office), reprinted later with documents. Archibald MacLeish, Librarian of Congress, has collected 13 addresses of 1941 and 1942 in *Time to Act* (Houghton, Mifflin). Selden Menefee, in *Assignment: U.S.A.* (Reynal & Hitchcock), and David Hinshaw in *Home Front* (Putnam) survey the country, public temper, and the press under war conditions. The best seller by Roy Carlson [pseud.], *Under Cover* (Dutton), discloses startling details of underground axis organization, learned first hand. Alan Chase includes our neighbors to the south in his study of espionage, *Falange; The Axis Secret Army in the Americas* (Putnam).

POST-WAR PLANS

Wendell L. Willkie's travel narrative and plea for the unity of nations, *One World* (Simon & Schuster), now selling toward its second million, has been reprinted complete in a symposium, *Preface to Peace.* The volume includes also *The Problems of Lasting Peace* (Doubleday, Doran), by Herbert Hoover and Hugh Gibson, "The Price of Free World Victory," a chapter from Henry A. Wallace's new book, *The Century of the Common Man* (Reynal & Hitchcock), and "Blue-Print for Peace" (Columbia University Press), by Sumner Welles, from his new book, *The World of the Four Freedoms.* The symposium is cooperatively issued by the respective publishers. Irving Brant, in *Road to Peace and Freedom* (Bobbs-Merrill), forecasts reconstruction and our future foreign policy. Ely Culbertson, of contract bridge fame, has drafted a stimulating plan for permanent post-war settlement in his *Total Peace* (Doubleday, Doran). Walter Lippmann pleads with a voice of authority for our place in the community of nations in his brilliant review of the past and argument for the future, *United States Foreign Policy: Shield of the Republic* (Little, Brown).

BIOGRAPHY

By Malcolm O. Young
Reference Librarian, Princeton University

GENERAL

Biography flourishes in the adverse circumstances of the present, and perhaps because of the demand for non-war reading. The number published within this field during the first 11 months of 1943 was 442, a reduction from 497 in 1942, but only in proportion to total reduction. The standard has not been lowered. As John Chamberlain said in *The New York Times Book Review* for Sept. 19, in scanning the fall book announcements: "Autumn promises to be singularly rewarding in biography." James Thomas Flexner, in the *Saturday Review of Literature* for Oct. 9, has an essay "Biography as a juggler's art," reviewing the factors that a writer has to remember and to balance, to produce a work of value. Mention should be made, too, of Charles Angoff's plea in *The American Mercury* of August, for biographers of certain New England theologians whose influence on the "American idea" was considerable. As a record, it should be noted that the Pulitzer Prize in the field was awarded to Samuel Eliot Morison for *Admiral of the Ocean Sea,* his life of Columbus.

COLLECTIVE WORKS

A much used reference book leads off in this group: *Twentieth Century Authors* (H. W. Wilson) compiled by Stanley J. Kunitz and Howard Haycraft. Another reference work of value is *Webster's Biographical Dictionary* (Merriam), containing concise information on some 40,000 individuals. *American Authors and Books, 1640-1940* (Gramercy), edited by W. J. Burke and W. D. Howe, includes brief information on men within its field. Leon Howard's *The Connecticut Wits* (Univ. of Chicago Press) trace the careers, intellectual and literary, of John Trumbull, Timothy Dwight, David Humphreys, Joel Barlow. Very readable is Irving Stone's *They Also Ran* (Doubleday), dealing, of course, with those men who have been unsuccessful nominees for the Presidency. Kenneth McKellar's *Tennessee Senators* (Kingsport, Tenn., Southern Pub.) sketches the 39 who have held that position.

Two books have Chicago as background. Ernest Poole's *Giants Gone* (McGraw) traces the development of the city in portraits of its settlers and builders. Lloyd Wendt and Herman Kogan, in *Lords of the Levee* (Bobbs, Merrill), give the story of the political rulers of the First Ward in the 1880's and 1890's. A series of 30 sketches and appraisals of contemporary conductors of American orchestras is done in David Ewen's *Dictators of the Baton* (Alliance). Containing some biographical material is Lee M. Friedman's *Jewish Pioneers and Patriots* (Macmillan), relating to Jews in America.

Gerald W. Johnson, in *American Heroes and Hero-Worship* (Harper) discusses, among others, Washington, Jefferson, Van Buren, Clay, duPont, Theodore Roosevelt, Woodrow Wilson. The valuable work by Douglas S. Freeman, *Lee's Lieutenants* (Scribner's) continues in volume two the period from Cedar Mountain to Chancellorsville. Lowell Thomas, in *These Men Shall Never Die* (Winston), presents the deeds and personalities of some 70 heroes of the current war, while *These Are Our Generals* (Knopf) is a series of 17 sketches with a foreword by Walter Millis. Henry Thomas and Dana Lee Thomas continue their series of compilations with *Living Biographies of Famous Novelists* (Garden City).

THE PRESIDENTS

This being the bi-centennial year of Jefferson's birth, he has been the subject of considerable writing. His earlier years are portrayed in a well reviewed book by Marie Kimball, *Jefferson, The Road to Glory, 1743-1776* (Coward). A symposium on him was edited by J. W. Wise and published by the Bill of Rights Sesquicentennial Committee. Adrienne Koch's *The Philosophy of Thomas Jefferson* (Columbia) is a study of the development of his ideas. A well written book for juveniles is Hendrick van Loon's *Thomas Jefferson* (Dodd). The most comprehensive life of Lincoln of the year was the one by James Daugherty (Viking), well illustrated.

Following Abraham Lincoln (Wise) by Bernhardt Wall is a compilation largely of pictures of scenes connected with his life. Hitherto unknown sidelights are in R. L. Kincaid's *Joshua Fry Speed, Abraham Lincoln's Most Intimate Friend* (Lincoln Book Shop, Chicago), containing some Lincoln letters. Others are Milton H. Shute's *Lincoln and California* (Stanford Univ.); Harry J. Carman's and Reinhard H. Luthin's *Lincoln and the Patronage Spoils System* (Columbia); Harry E. Pratt's *The Personal Finances of Abraham Lincoln* (Abraham Lincoln Ass'n, Springfield).

An opportune and praised small volume is Gordon C. O'Gara's *Theodore Roosevelt and the Rise of the American Navy* (Princeton Univ. Press). *Theodore Roosevelt and Labor in New York State, 1890-1900* (Columbia) is by Howard L. Hurwitz. Written for young people is Alvin F. Harlow's *Theodore Roosevelt, Strenuous American* (Messner).

THE LAW AND POLITICS

The career of a soldier of the Revolution, business man and Congressman, Benjamin Tallmadge is chronicled by Charles S. Hall (Columbia Univ. Press). A little known champion of the common man in the antebellum South, John Jacobus Flournoy, is the subject of a work by E. Merton Coulter (Georgia Historical Society). *James Moore Wayne* (Univ. of North Carolina Press) is the life of the Georgia politician and Associate Justice of the U. S. Supreme Court by Alexander A. Lawrence. *John Brown and the Legend of Fifty-six* (American Philosophical Society) by James C. Malin, is an analysis of historical evidence on Brown's character and role. A new edition, with revisions, of Oscar Garrison Villard's *John Brown* (Knopf) has appeared.

Old Thad Stevens (Univ. of Wisconsin Press) is by Richard N. Current. The Confederate statesman, Judah Benjamin, is exhaustively treated by Robert D. Meade (Oxford). More light on the Civil War period is found in Richard S. West, Jr's. *Gideon Welles* (Bobbs, Merrill). Harvey M. Rice's *The Life of Jonathan M. Bennett* (Univ. of North Carolina Press) deals with a Virginian politician of the 19th century. Another political figure of Georgia, Henry W. Grady, called Spokesman of the New South, is found in a work by Raymond B. Nixon (Knopf).

The lawyer and Attorney-General, Charles J. Bonaparte, is, with his work, chronicled by Eric F. Goldman (Johns Hopkins Univ. Press). Governor of Colorado in the 1920's, and a man of unusual convictions, William E. Sweet has a biography by Wayne C. Williams (Revell). George C. Osborn's *John Sharp Williams* (Louisiana State Univ. Press) gives the career of the late Mississippi Senator. A timely and readable production is Harold L. Ickes' *The Autobiography of a Curmudgeon* (Reynal). *Troubleshooter* (Viking) is the title of a book of reminiscences of John D. Voelker, a district attorney in Michigan, written under the pseudonym 'Robert Traver.' A fictional work which contains autobiographical details from the author's own life is Arthur Train's *Yankee Lawyer: The Autobiography of Ephraim Tutt* (Scribner's). Very informal is Fay Henle's *Au Clare de Luce* (Day), concerned with the new Representative from Connecticut.

LEADERS OF THE SPIRIT

Katherine K. Burton's *Celestial Homespun* (Longmans) is a somewhat fictionized biography of Isaac Thomas Hecker, founder of the Paulist Fathers. Two mystics of the 19th century, Thomas Lake Harris and Lawrence Oliphant, are dealt with in *A Prophet and a Pilgrim* (Columbia Univ. Press), by Herbert Schneider and George Lawton. *The Life of Rt. Rev. Joseph Rosati* (Catholic Univ. of America) is by Frederick J. Easterly. Another biography of the Yankee radical thinker who became a Catholic, Orestes Brownson, is by Theodore Maynard (Macmillan). *Harriet Tubman* (Associated Publishers) is a biography of the pioneer negro abolitionist by Earl Conrad, while *Joseph Charles Price* (Christopher) is a biography of the Negro leader of the 80's and 90's by William J. Walls.

The life of the journalist and women's rights reformer, Lillie Devereux Blake, is narrated by Katherine D. Blake and Margaret L. Wallace (Revell). *The Story of Helen Gould* (Revell) is the philanthropist's story, by Alice N. and Henry H. Snow. *White Woman on the Congo* (Revell) is by Emily Banks, first white woman missionary on the Belgian Congo. *William Lawrence: Later Years of a Happy Life* (Harvard) is by another Bishop of Massachusetts, Henry Knox Sherrill. The Methodist Bishop, Edwin Holt Hughes, entitles his autobiography *I Was Made a Minister* (Abingdon), and a Southern rector, Louis Tucker, calls his entertaining experiences *Clerical Errors* (Harper).

MILITARY FIGURES

Beside the work by Douglas S. Freeman, mentioned among Collective Works, may be recorded the authoritative work by Lincoln Lorenz, *John Paul Jones,* published by the U. S. Naval Institute, which has also published the second volume of Charles L. Lewis' *David Glasgow Farragut.* This volume includes the period of the Civil War and later. For the second successive year, there has appeared a biography of William Mitchell, this one, by Isaac D. Levine entitled *Mitchell: Pioneer of Air Power* (Duell). In *God Is My Co-Pilot* (Scribner's) Robert L. Scott, Jr. sketches his early life and thrills the reader with his career in the present war. It is to be expected that a life of Gen. "Jimmy" Doolittle should appear. This one by Carl Mann has the title *Lightning in the Sky* (McBride).

THE MEDICAL PROFESSION

A *Memoir of Walter Reed* (Harper) by Albert E. Truby commemorates the heroic discoverer of the yellow fever mosquito. *Trail to Light* (Bobbs, Merrill) by Robert P. Parsons presents a man less known to the layman, Dr. Joseph Goldberger, connected with cancer and cure of pellagra. An autobiographical work is Dr. Fred H. Albee's *A Surgeon's Fight to Rebuild Men* (Dutton). Dr. Albee there tells us of his work in the rehabilitation of cripples. With many anecdotes, the Hungarian-born Dr. Max Thorek presents *A Surgeon's World* (Lippincott). *Ship's Doctor* (McGraw) is the experience of Dr. Rufus W. Hooke as a surgeon at sea. One of the most popular books, and worthily so, is *Burma Surgeon* (Norton), a vivid narrative of the present, by Dr. Gordon S. Seagrave.

MEN OF THE FRONTIER

A scholarly production is Grace L. Nute's *Caesars of the Wilderness* (Appleton), telling the story of Médard Chonart and Pierre Radisson, French explorers of America in the 17th century. A famous character of the late 19th century is entertainingly drawn by Charles L. Sonnichsen in *Roy Bean; Law West of the Pecos* (Macmillan). The story of another character, Mike Mahoney, and the gold rush days is in Merrill Dennison's *Klondike Mike* (Morrow). *One Man's West* (Doubleday) is the autobiography of David Lavendar, miner and rancher. *Cow* *by the Tale* (Houghton, Mifflin) is an informal self portrait and picture of his time by Jesse James Benton. Another picture of the West is James E. McCauley's *A Stove-up Cowboy's Story* (Texas Folk-Lore Society). A Texas ranchman and banker, George W. Littlefield, is portrayed by J. E. Haley. Still another bit of Texasiana is Leonard King's own story *From Cattle Rustler to Pulpit* (San Antonio, Naylor). *Pilotin' Comes Natural* (Farrar) is Frederick Way's adventures as an Ohio River steamboat captain. *Chief Seattle,* by Eva G. Anderson (Caxton), is "a popular biography based on extensive research" of an Indian Chief of the Northwest. Another Indian in the year's list is the Sauk war chief, Keokuk, vividly drawn by Myna Lockwood (Oxford).

INDUSTRIALS

Lonely Midas (Farrar) is the biography of the Philadelphia merchant and philanthropist who lived from 1750 to 1831, Stephen Girard, by Harry Emerson Wildes. From this early figure we pass to a group of modern individuals. *Henry Ford; his Life, his Work, his Genius* (Bobbs, Merrill) is a full account by William A. Ford, long associated with his subject. Quite different and opportune because of its locale where the author spent 25 years, is John L. Keenan's *A Steel Man in India* (Duell). *Ambassador to Industry* (Bobbs, Merrill) is Clyde W. Park's biography of Herman Schneider, writer and teacher in the field of industrial training. *Exploring the Dangerous Trades* (Little, Brown) is the autobiography of Dr. Alice Hamilton, concerned with industry from the point of her 32 years in industrial medicine. Timely, though not an important work, is *Skymaster* (Dorrance), the story of Donald Douglas, head of Douglas Aircraft Co., by Frank Cunningham. *Boot Straps* (Scribner's) is the autobiography of Tom M. Girdler, industrialist, known as opponent of organized labor.

EDUCATORS

A varied career, including periods as lawyer, soldier, and, after the Civil War, as President of Tulane University, is found in *William Preston Johnston; A Transitional Figure of the Confederacy* (Louisiana State Univ. Press) by Arthur M. Shaw. Historian and professor, the eminent John Bach McMaster, is evaluated in a monograph by Eric F. Goldman (Univ. of Pennsylvania Press). Philosopher and professor, William James is the subject of a symposium of addresses in celebration of the centenary of his birth (Univ. of Wisconsin Press). *John Cotton Dana* is a biography of a famous librarian, written by Chalmers Hadley and appropriately published by the American Library Association.

The stirring Professor of Philosophy, Horace Williams, has as biographer Robert W. Winston, who has used as a subtitle to his volume *Gadfly of Chapel Hill* (Univ. of North Carolina). Another stimulating personage, Lucy Maynard Salmon, Vassar Professor of History, is pictured by Louise F. Brown in *Apostle of Democracy* (Harper). A life of, together with selections from the writings, George Lincoln Burr, Professor of History at Cornell, is compiled by Roland Bainton (Cornell Univ. Press).

Charles Breasted's *Pioneer to the Past* (Scribner's) is a fascinating picture of his father, James Henry Breasted, the teacher and outstanding archaeologist. *The Other Side of Main Street* (Columbia Univ. Press) is the agreeable autobiography of Henry Johnson, Professor Emeritus of History, Teachers College, Columbia University, together with his philosophy of education. The Detroit Public School Staff has paid tribute in *Frank Cody, A Realist in Education* (Macmillan) to one who was long its leader. Frank Kingdon, president of the University of Newark, lecturer and radio commentator, calls his autobiography *Jacob's Ladder.* In *A Professor at Large* (Macmillan), Stephen Duggan, "international educator," presents his varied experiences and intellectual development.

SCIENTISTS

Hildegarde Hawthorne's *Matthew Fontaine Maury* (Longmans) sketches the life of the 19th century hydrographer who did much to make the seas safe for future navigators. *Under a Lucky Star* (Viking) by Roy Chapman Andrews is the very readable story of the author's numerous scientific expeditions. An outstanding work is Rackham Holt's *George Washington Carver* (Doubleday), the inspiring story of the Negro scientist. A pleasant narrative is *Naturalist at Large* (Little, Brown) by the Harvard zoologist, Thomas Barbour. The writer of fascinating books of nature, Edwin Way Teale, calls the story of his early years, *Dune Boy* (Dodd, Mead). In this group may be included the authorized biography *The Wright Brothers* (Harcourt) dealing, of course, with the inventors, Orville Wright and his late brother, Wilbur. There is also a biography of the inventor and pioneer in naval aviation, Glenn Curtiss, by Alden Hatch (Messner).

WRITERS

The editor and anthologist, Rufus Wilmot Griswold, known as Poe's literary executor, is the subject of a biography by Joy Bayless (Vanderbilt). One of the more noticed books is Henry Seidel Canby's *Walt Whitman, an American* (Houghton, Mifflin). John Delancey Ferguson's *Mark Twain: Man and Legend* (Bobbs, Merrill) includes an analysis of the humorist's working methods. A slighter volume is Cyril Clemen's *Young Sam Clemens* (Portland, Me., Tibbets). The keen thinker and essayist, Randolph Bourne, is recalled by Louis Filler (American Council on Public Affairs). *Towering Pines* (Meador) is the apt title of the life of the southern novelist, John Fox, Jr., written by Harold E. Green.

The third volume of H. L. Mencken's memoirs is entitled *Heathen Days* (Knopf), covering the years 1890-1936. Lloyd Morris' *A Threshold in the Sun* (Harper) is a combination of an intimate picture of an extraordinary family, and of literary memoirs and opinions. *The Best Terhune I Knew* (Harper) is a picture revealing the writer of dog stories, by his wife. The life of the popular writer of the west, James Oliver Curwood, is recorded by H. D. Swiggett (Paebar). A picture of himself and of his farmer-father, in *Country Cured* (Harper), is by Homer Croy. Professor, author, politician, Wilbur L. Cross calls his autobiography *Connecticut Yankee* (Yale).

The sometime editor, teacher, writer, Albert Jay Nock, in his *Memoirs of a Superfluous Man* (Harper) gives us for the most part the revelation of his stimulating opinions. A delightful book of reminiscences is by the man of letters, Ferris Greenslet, entitled *Under the Bridge* (Houghton, Mifflin). New Orleans is, of course, the setting for Fayette Copeland's *Kendall of the Picayune* (Univ. of Oklahoma). Contemporary newspaper life is in Kenneth Stewart's *News Is What We Make It* (Houghton, Mifflin). Full of anecdotes of his experiences as reporter and correspondent is Robert J. Casey's *Such Interesting People* (Bobbs, Merrill). *My War with Japan* (Holt), by Carroll Alcott, is a record of some 15 years as author, press, and radio man in the Orient.

THE ARTS

Carleton Mabee's *The American Leonardo* (Knopf) deals with as variously a talented man as daVinci himself, the inventor-artist, Samuel F. B. Morse. Frank Lloyd Wright's *Autobiography* (Duell) is a new edition, adding the last ten years to the narrative of the architect's life. DeCost Smith lived long with the western Indians as a painter of them. He entitles his autobiography *Indian Experiences* (Caxton). Two newspaper camera men have written informal accounts of their professional experiences: Sammy Schulman in *Where's*

Sammy? (Random), and Harry J. Coleman in *Give Us a Little Smile, Baby* (Dutton). George M. Cohan, comedian, is portrayed by Ward Morehouse (Lippincott). The Broadway figure, actor and producer, George Jessel, calls his frank self-portrait *So Help Me* (Random). Full of entertaining anecdotes is *Harvest of My Years* (Bobbs, Merrill), the narrative of the playwright Channing Pollock. Mortimer Smith recalls the 19th century violinist *Ole Bull* (Princeton Univ. Press). *Always Room at the Top* (R. R. Smith) is the autobiography of the singer Ganna Walska. An American composer, George Gershwin, is analysed by David Ewen (Holt). Albert Spalding, violinist, has written his memoirs and entitled them *Rise to Follow* (Holt).

MISCELLANEOUS

An intimate picture of the 18th century and many of its famous personages is in *John Paradise and Lucy Ludwell of London and Williamsburg* (Colonial Williamsburg) by Archibald B. Shepperson. Barbara Frietschie (the spelling used by the authors) is briefly but adequately drawn by Dorothy M. and William R. Quynn (Maryland Historical Society). The writer of books of the sea, James B. Connolly, has given us an interesting picture in *Master Mariner* (Doubleday), concerned with Amasa Delano of Massachusetts, a seaman dying in 1823.

From these early figures, we pass to a modern period and a group of biographies of the 'informal' but interesting type. *Kansas Irish* (Macmillan) by Charles B. Driscoll is a picture of the author's father, an immigrant who became a Kansas farmer. Other sidelights on our every day civilization are *Growing up in the Horse and Buggy Days* (Nesterman) by C. E. Ladd and E. R. Eastman, and *Excuse My Dust* (McGraw) by Bellamy Partridge. *Clear the Tracks* (Whittlesey) by Joseph Bromley, recalls the author's days as a locomotive engineer. *Those Were the Days* (Duell) are the New York reminiscences of Edward R. Hewitt.

Anne Goodwin Winslow, who had seen much of the world and its famous people before her retirement to her southern childhood home, writes a pleasant, thoughtful book, *Dwelling Place* (Knopf). A long book is *Bound for Glory* (Dutton), the wandering narrative of Woody Guthrie, who, with his guitar, has wandered in every part of the States. *Life Is Too Short* (Lippincott) is the frank self portrait of Frederick C. Wellman (Cyril Kay-Scott, pseud.) whose career has included medicine, art, writing. Thomas Sugrue's *There Is a River* (Holt) is the story of Edgar Cayce, one with unusual psychic powers.

Karl Schriftgiesser's *Oscar of the Waldorf* (Dutton) celebrates the former maître d'hôtel. *Syrian Yankee* (Doubleday) is the autobiography of Salom Rizk, *While The Happiest Man* (Putnam) is by another immigrant, Louis Borgenicht; and a Chinese resident of San Francisco, Pardee Low, has given us a delightful volume *Father and Glorious Descendant* (Little, Brown). The intimate autobiography of a modern woman is Louise R. Pierson's *Roughly Speaking* (Simon and Schuster). *The Little Locksmith* (Coward) by Katharine B. Hathaway is the self revelation of a cripple who overcame much. Lastly in this group is *My Family, Right or Wrong* (Doubleday), John Philip Sousa III, a picture and family 'informal' to the extreme.

FOREIGN SUBJECTS

A successful production in a difficult field is *Joshua: Leader of a United People* (Doubleday), by Rogers MacVeagh and Thomas B. Costain. A scholarly recreation is *Constantine the Great* (Sheed) by Lloyd B. Holsapple. In commemoration of the 400th anniversary of his birth, a survey of Copernicus and his influence, is done by Stephen P. Mizwa (N. Y., Kosciuzko Foundation). *Saint Teresa of Avila* (Bruce) by William T. Walsh is the story of the 16th Century Spanish saint. *The Secret Life of Salvador Dali* (Dial) is the self revelation of the present day Spanish artist. *Captain of the Andes* (R. R. Smith) by Margaret H. Harrison, is the biography of José de San Martin, liberator of Peru, Chile, and Argentina.

An analysis of the man and his educational theories is Matthew Spinka's *John Amos Comenius, That Incomparable Moravian* (Univ. of Chicago Press). Two works on Beethoven have appeared, one by Emil Ludwig (Putnam) and one by John N. Burk (Random). An evaluation of Johann Sebastian Bach is by Lawrence N. Field (Augsburg). A monumental work in two volumes on Dürer by Erwin Panofsky (Princeton Univ. Press) analyses the artist and his work. A critical work on Jacques Cazotte, French writer, is by Edward P. Shaw (Harvard Univ. Press).

The second recent biography of the imaginative writer Jules Verne is by George H. Waltz, Jr. (Holt). A sympathetic study of Napoleon III is by Albert Guerard (Harvard Univ. Press). *Flower of Evil* (Sheed) is a work, largely critical, of Baudelaire, by Edwin Morgan. Geoffrey Brunn's *Clemenceau* (Harvard Univ. Press) will provoke discussion.

Walter Lowrie, translator of several works by the Danish philosopher Kierkegaard, has now written a short life of his subject (Princeton Univ. Press). Using newly found sources, Herbert Weinstock has presented Tchaikovsky in new light (Knopf). A most opportune work is Arthur U. Pope's *Maxim Litvinoff* (Fischer). In a small volume *Chiangs of China* (Abingdon), Elmer T. Clark presents largely the Soong family. Another small volume, by Helen R. Hull, gives us a well written sketch of Mayling Soong Chiang (Coward).

A well reviewed study of Laurence Sterne is *This is Lorence* (Univ. of North Carolina Press) by Lodwick Hartley. *Stephen Gosson: A Biographical and Critical Study* (Princeton Univ. Press) by William Ringler, deals with the 16th Century playwright, pamphleteer, and preacher. *Isaac Watts* (Dryden) is by Arthur P. Davis. *The Forgotten Hume; le bon David* (Columbia Univ. Press) presents the philosopher's works, his personality and his relations with his contemporaries, by Ernest C. Mossner.

Forever Young (Putnam) is a picture of Keats' last four years, by Blanche C. Williams. The first volume of a longer work, *Wordsworth's Formative Years* (Univ. of Michigan Press), by George W. Meyer, covers the poet's first 28 years. *The Liberal Mind of John Morley* (Princeton Univ. Press) is by Warren Staebler. René Kraus' *Young Lady Randolph* (Putnam) presents the American mother of Winston Churchill. One of the best received books is *Gilbert Keith Chesterton* (Sheed) by Maisie Ward.

TRAVEL

By Helen F. Conover

Division of Bibliography, Library of Congress

GENERAL

As might be expected, the output of travel literature in 1943 was small, most travelers who have recent experiences to recount being those who have journeyed to a war (See "War Books"). Of the descriptive books, many have taken on a character related to the world conflict.

ALASKA

Typical is Joseph Driscoll's *War Discovers Alaska* (Lippincott). The *Herald Tribune* reporter toured over

"Cinderella country," observing normal pursuits as well as war conditions, and finds her a prize worth fighting for. Evelyn Stefansson, in her handsomely illustrated *Here Is Alaska* (Scribner), relates her travels among the Esquimaux with her explorer husband, Vilhjalmur Stefansson. The explorer himself is represented by a new edition, with new material, of his *Friendly Arctic* (Macmillan), the account of his third polar expedition of 1913-18, first published in 1921. Another scientific explorer's book is the *Alaska Diary, 1926-1931* (Cattell) of the late Dr. Aleš Hrdlička, anthropologist of the Smithsonian Institution and foremost exponent of the Asiatic-American migration theory. In this informal narrative Dr. Hrdlička relates day-by-day experiences, including the human touches which distinguished scientists can not put into their reports.

CANADA

In *Sleeping Island* (Coward-McCann) P. G. Downes describes his summer voyage to Nueltin Lake in the scarcely-known barren lands of the Canadian north. Grace Lee Nute, of the Minnesota Historical Society, has studied Médard Chouart, Sieur des Groseilliers, and Pierre Esprit Radisson, *coureurs de bois* and explorers of Canada and the upper Mississippi, in *Caesars of the Wilderness* (Appleton-Century). *The Ports of British Columbia*, by Agnes Rothery (Doubleday, Doran) is a description of Vancouver and Victoria, past and present.

UNITED STATES

Rivers of America.—In this series, edited by the late Stephen Vincent Benét and Carl Carmer, Farrar and Rinehart have issued several volumes. *The Humboldt, Highway of the West*, by Dale L. Morgan, comprises much history and folk-lore of Nevada. *Twin Rivers: the Raritan and the Passaic*, by Harry Emerson Wildes, divides its account of northern New Jersey between colonial and revolutionary history and modern factory development. In *The St. Johns*, Branch Cabell and A. J. Hanna relate the colorful history of the Florida river. A companion volume, *Songs of the Rivers of America*, edited by Carl Carmer, has musical arrangements of folk-songs and ballads by Dr. Albert Sirmay.

American Mountain Series.—The first volume of the new American Mountain series, edited by Roderick Peattie for the Vanguard Press, appeared late in 1942—*The Friendly Mountains, Green, White and Adirondacks*. It contains eight essays by various expert hands, covering geology, weather, botany, tourist life, summer and winter sports. The appendices give points of interest, guides and maps, mountain elevations, principal ski areas. A second volume, *The Great Smokies and the Blue Ridge*, covers much the same ground, minus the skiing, for the southern Appalachians.

Local.—Henry F. Howe in *Prologue to New England* (Farrar & Rinehart) has written a record of the explorations of the New England coast from Cabot in 1498 to Captain John Smith in 1614. Frank Monaghan and Marvin Lowenthal's *This Was New York, the Nation's Capital in 1789* (Doubleday-Doran) is a witty and amusing picture of past days in the city of President Washington's inauguration, its streets, business, commerce, customs and society, high and low. One more volume in the American Guide Series, *Cincinnati: A Guide to the Queen City*, by the now defunct Writers' Program of Illinois, is published by the Wiesen-Hart Press of Cincinnati. Harnett T. Kane's *Bayous of Louisiana* (Morrow) describes a glamorous and obscure region.

The West.—An interesting Indian book is De Cost Smith's *Indian Experiences* (Caxton). The writer went in 1884 to Nebraska and the Dakotas to paint the Indians. His experience and keen observations, as well as his drawings and photographs, cover half a century, thousands of miles, and many tribes in war and peace. Irene

D. Paden has retraced the emigrant trails from the Midwest to the Pacific and tells their exciting history in *The Wake of the Prairie Schooner* (Macmillan). Professor Maurice Garland Fulton has edited what is heralded as one of the great "finds" in Western Americana of this century, the *Diary and Letters of Josiah Gregg,* a companion work to the famous *Commerce of the Prairies.* The first volume, *Southwestern Enterprises, 1840-1847* (Univ. of Oklahoma) was brought out in 1941, and the second volume, *Adventures in Mexico and California, 1847-1850,* appeared in the fall of 1943. A state is studied by Joseph Kinsey Howard in *Montana: High, Wide and Handsome* (Yale). Published in 1942 too late for inclusion in THE AMERICAN YEAR BOOK, Hildegarde Hawthorne's *California's Missions, Their Romance and Beauty* (Appleton-Century) should be mentioned both for the delightfully told stories of some 20 missions and for the charming wash drawings by the late E. H. Suydam.

SOUTH AMERICA

General.—The New World Guides to the Latin American Republics (Duell, Sloan & Pearce) are sponsored by the Office of the Coordinator of Inter-American Affairs and edited by Earl Parker Hanson. The two volumes, *Mexico and Central America* and *South America,* are introduced by a group of essays on Pan-American themes, then treated by countries, the Baedeker of each region preceded by sketches of its history, land, culture and art. Edward Tomlinson's *The Other Americas* (Scribner) is an informal story guide, backed with appendices of facts and figures. Harry A. Franck, who in 1911-15 walked through most of South America, has made a return visit and describes changes from the Panama Canal to Patagonia in *Rediscovering South America* (Lippincott). *Grandmother Drives South,* by Constance Matilda Henley (Putnam) is a gay account of a pleasure trip from Rio de Janeiro to the southern tip of the continent, then north along the Pan-American highway to California. Her jaunt of 38,000 miles shows how easy it will be, when we have peace and gas again, to run down, visit, and appreciate our neighbors. In a far more serious vein is Waldo Frank's *South American Journey* (Duell, Sloan & Pearce). On a lecture mission in Brazil, Uruguay, Chile, Peru, and Argentina, where he was beaten up by fascists, the author's observations are darkly political rather than social.

Regional.—*The Amazon* by Carl P. Haskins (Doubleday, Doran) is the history of the valley drained by the mightiest of watersheds and the countries whose life it touches. In *Ecuador: Portrait of a People* (Doubleday, Doran) Albert B. Franklin has painted rather with anecdote than with statistics. Erna Fergusson's *Chile* (Knopf) is a pleasant successor to her earlier books on Hawaii, the Southwest, and Latin America. The surrealist writing of Benjamin Subercaseaux's *Chile: A Geographic Extravaganza* (Macmillan), translated by Angel Flores from the Spanish *"geografia loca* (mad geography)" which for two years has been a best seller in Chile, jazzes but does not conceal a solid basis of history and fact. Virginia Paxton, in *Penthouse in Bogotá* (Reynal & Hitchcock) describes entertainingly the difficulties of an American housewife with language and customs of Colombian neighbors. Leonidas R. Dennison, an engineer who spent 16 years mining in Venezuela, tells adventures with natives, gold, and diamonds along the Orinoco River in *Caroni Gold* (Hastings).

ENGLAND

European books in 1943 were unanimously concerned with war (see "War Books"). Two pictures of England under her changed conditions might be mentioned here: I. A. R. Wylie's *Flight to England* (Random), an inspiring account by an English woman writer long resident in America of a trip made in the summer of

1942; and H. V. Morton's *I Saw Two Englands* (Dodd, Mead), the interesting contrast of a London journalist's trip in the summer of 1939 through the English countryside, cathedral towns and castles, with his arranged tour in the late fall of munitions factories, airforce schools, and training camps, in a mobilized country.

ASIA AND AFRICA

Ernest F. Fox in *Travels in Afghanistan, 1937-1938* (Macmillan) recounts the adventures of an exploration in search of minerals, 1,700 miles of it on horseback or foot. Emil Lengyel's *Siberia* (Random) is, like his *Danube* (1939), a comprehensive study of that great region. A group of beautiful photographs taken by Kwok-Ying Fung has been arranged and edited with accompanying description by Fritz Henle in *China* (Holt). The book is being sold for the benefit of United China Relief. An exploration and discovery book by Mary Seymour Lucas, *Vast Horizons* (Viking), with illustrations and maps by C. B. Falls, is adapted to juvenile readers—a tempting story of trade routes to the East, beginning with the Crusaders, then Marco Polo, the rise of the Mongols, and the Portuguese in the Indies. A delightful feature is the inclusion of songs of the Western adventurers and the native groups.

In *The Land of the Great Image* (Knopf), Maurice Collis has used as source the narrative of a seventeenth-century Portuguese missionary, Friar Manrique, in Burma. Allan Houghton Brodrick's *Little China; the Annamese Lands* (Oxford) gives an historical and ethnological account of the northern and eastern sections of French Indo-China. The same author in a very short survey, *North Africa* (Oxford), has compressed a quantity of information about geography, history, social customs, and political plight of Libya, Tunisia, Algeria and Morocco. The adventurer and explorer, Attilio Gatti, has written *Killers All!* (McBride), narrative of an expedition in the equatorial jungles of Rhodesia and the Belgian Congo, full of pictures and accounts of all manner of wild beasts and men. *Top Hats and Tom-Toms,* by Elizabeth Dearmin Furbay (Ziff-Davis), describes the jumbled society of Liberia, where the author spent three years as wife of a college president.

JAPAN AND THE PACIFIC

Why Japan Was Strong, by John Patric (Doubleday, Doran), is a real travel book. As a salesman in Japan during the Thirties, the author saw far more than is usually revealed to foreigners of the everyday life of the simple people. *Garden Islands of the Great East,* by David Fairchild (Scribner), describes the loveliness of the Malay archipelago before war struck. Daniel Hawthorne, in *Islands of the Pacific* (Putnam), presents a thoroughgoing handbook of the world of Oceania, taking by turn each of the island groups which are becoming household words to Americans, sketching their history, physical characteristics, flora, fauna, ethnology, etc. Vern Haugland's *Letter from New Guinea* (Farrar & Rinehart), the personal narrative of a war correspondent, is concerned mainly with the Papuan jungle into which he parachuted from a wrecked plane and through which he wandered for seven weeks. A. S. Macleod's *The Spirit of Hawaii* (Harper) is a collection of 64 plates, with brief comment on facing pages, of watercolors, lithographs, and drawings made over a residence of 20 years in the Islands.

SCIENCE AND NATURAL HISTORY

The Smithsonian Institution has made a significant contribution to travel literature in its War Background Studies, well-illustrated monographs by the scientists of the staff. The series, begun in 1942, contains to date 17 titles, and has covered the peoples of the Far East, the Pacific, Egypt, The Indies, Russia, Iceland and Greenland, as well as such additional studies as *Poisonous Reptiles of the World,* an ethnologist's inquiry

—*Are Wars Inevitable,* and *The Natural-History Background of Camouflage.*

Now That We Have to Walk by Raymond Tifft Fuller (Dutton) brings consolation and encouragement to Americans who have hitherto known the countryside solely as motor highways. A guide book in natural science for the novice, it is full of useful facts and observations of animal life. Roland C. Geists' *Hiking, Camping and Mountaineering* (Harper) is another contribution to the literature of outdoor pursuits, as also is Joseph J. Hickey's *Guide to Bird Watching* (Oxford). Ivan R. Tannehill, chief of the Division of Synoptic Reports and Forecasts of the United States Weather Bureau, has published an extensive handbook for the general reader, *Weather Around the World* (Princeton Univ.), in which he describes phenomena and meteorological conditions in 185 key places. *Science from Shipboard* (Science Service, Washington), prepared by the Boston-Cambridge branch of the American Association of Scientific Workers, is a "simple manual of information" for ocean-crossing soldiers about weather, the sky, the calendar, navigation, oceanography, sea birds, ship life. Roy Chapman Andrews, retired director of the American Museum of Natural History, has published his memoirs, *Under a Lucky Star* (Viking), high points in which are his scientific expeditions in remotest Asia.

CRITICISM AND BELLES LETTRES

By Clara Gruening Stillman
Author and Journalist

THE WAR INFLUENCE

The war dominated the literary scene directly and indirectly: directly in the large number and variety of war books published. The most popular non-fiction books were in general connected with the war. The influence of the war was also visible in a certain spirit which animated many literary studies and reminiscences, travel books, and interpretations of American life—a search for a basic democratic faith and hope, accompanied by a good deal of self-criticism, and a revaluation and reinterpretation of the democratic ideal in our history, life, and literature.

GENERAL LITERATURE

An outstanding book probing the vital relations of ideas to life is *Romanticism and the Modern Ego* by Jacques Barzun (Little, Brown), an interpretation of the romantic spirit as the basis of democratic aspiration and freedom in opposition to the totalitarian rigidities of classicism. Outstanding also is *A Certain Measure* (Harcourt) in which Ellen Glasgow, former Pulitzer Prize winner, discusses in the collected prefaces to her novels, the idea of fiction as an interpretation and intensification of life and as the reflection and criticism of an age; and also her own purpose, problems, and practice in the series of novels in which she has portrayed the long transitional period of the South from Civil War Days to the present. A distinguished critical study is *The Heritage of Symbolism* (Macmillan) by C. M. Bowra, who writes lucidly on Yeats, Valery, Rilke, Stefan George, and Alexander Blok, as inheritors and modifiers of the symbolist tradition initiated by Baudelaire, Verlaine, and Mallarmé.

Science and Criticism (Yale U.P.) by Herbert J. Muller considers the problem of maintaining, in a scientific age, the liberal values represented by a long line of writers from Chaucer to Thomas Mann. A valuable book for enjoyment and reference is *The Cavalcade of the English*

Novel (Holt) by Edward Wagenknecht, a comprehensive survey of novels and novelists from Elizabeth to George VI. In *American Idealism* (Oklahoma U.P.) Floyd Stovall traces the rise and decline of idealism in American literature and prophesies its rebirth in the next generation. *The Great Age of Greek Literature* (Norton) by Edith Hamilton is a study of the Greek spirit in the Periclean age and its significance for the present; partly a reprint, it contains five new chapters.

In *How To Write* (Dodd, Mead) Stephen Leacock wittily presents his serious views. *The Reader Over Your Shoulder* (Macmillan) by Robert Graves and Alan Hodge tells how to write English well, with examples of bad English from famous contemporary writers.

GIDE, PÉGUY, AND OTHERS

In *André Gide and the Crisis of Modern Thought* (Creative Age) Klaus Mann paints a sympathetic portrait which unifies the conflicting aspects of the French novelist's life and work. *Charles Péguy: Basic Verities; Prose and Poetry* (Pantheon), translated by Ann and Julian Green, gives the French text with page-by-page translation of the Catholic socialist writer who was a spiritual force in France during the first world war in which he fell. Julian Green draws his portrait in the Introduction. In *The World of Sholom Aleichem* (Knopf) Maurice Samuels introduces the English reader to a rich vein of Yiddish folk humor. *Max Norday* (N. Y. Nordau Committee) by Anna and Maxa Nordau, translated from the French, tells the life story of a writer whose controversial books (*Degeneration, The Conventional Lies of Society,* etc.), created an uproar some 50 years ago.

MARLOWE AND SHAKESPEARE

The Tragical History of Christopher Marlowe by John Bakeless (Harvard U. P.) is a monumental piece of research in 2 volumes, illustrated, for the specialist rather than the general reader. *Shakespeare and the Nature of Man* (Macmillan) by Theodore Spencer is a study of the conflicting strains of mediaeval and modern thought in Shakespeare's view of man. Other Shakespeare studies include *Shakespeare's Satire* (Oxford U.P.) by Oscar James Campbell and *The Editorial Problem in Shakespeare* (Oxford U.P.) by W. W. Greg.

LITERARY ESSAYS

Anatomy of Nonsense (New Directions) by Yvor Winters contains essays on Henry Adams, T. S. Eliot, Wallace Stevens, and John Crowe Ransom. *The Sheltering Tree* (Duke U.P.) by Herbert Hoeltje is about the friendship between Emerson and Alcott. *Lytton Strachey* by Max Beerbohm (Knopf) was originally delivered as a lecture. *The Dramatic Criticism of George Jean Nathan* (Cornell U.P.) is by Constance Frick.

PERSONAL ESSAYS

In *McSorley's Wonderful Saloon* (Duell) Joseph Mitchell collects his popular *New Yorker* sketches on eccentric characters. *Going Fishing* (Harcourt) by Negley Farson, illustrated by C. F. Tunnicliffe, describes the joys of fishing the world over. Clare Leighton writes a prose poem on the bountifulness of the American earth in *Give Us This Day* (Reynal) and illustrates it with ten full-page drawings. *Coming Down the Wye* (Dutton), written and illustrated by Robert Gibbings, is a book of quiet beauty about the scenery, people, and legends that cluster about a river in Wales. James Thurber's *Men, Women and Dogs* (Harcourt) contains the famous "War Between Men and Women" drawings and many others, introduced by Dorothy Parker. In *The Dwelling Place* (Knopf) Anne Goodwin Winslow writes informally of her thoughts, guests, and neighbors on a Tennessee plantation. *Why Women Cry or Wenches with Wrenches* (Reynal) is Elizabeth Hawes' pungent reaction to the problem of preserving the American home in a world where women must work.

TOPICAL ESSAYS

The most popular book was *Here Is Your War* (Holt), the collected articles of Ernie Pyle, *World-Telegraph* columnist, describing the life of our soldiers as he saw it in Sicily and Tunisia. Very popular also was *To All Hands* (Whittlesey) by John Mason Brown, formerly dramatic critic of the *New York Post,* his collected daily broadcasts to the men of a U. S. flagship en route to Sicily, illustrated with photographs. Lin Yutang's *Between Tears and Laughter* (John Day), a discussion of contemporary problems in the light of ancient wisdom, was also widely read.

Prime Minister Churchill's war speeches for 1942 are compiled by Charles Eade in *The End of the Beginning* (Little, Brown). In *The World of the Four Freedoms* (Columbia U.P.), former Under Secretary of State Sumner Welles collects his speeches of recent years, introduced by Nicholas Murray Butler. *A Time to Act* (Houghton, Mifflin) is a selection by Archibald MacLeish, poet and Librarian of Congress, from his wartime addresses. In *An American Diary* (Doubleday, Doran) Samuel Grafton has made a selection from his daily columns in the *Post* since 1939. *The Torch of Freedom* (Farrar), edited by Emil Ludwig and Henry B. Kranz, contains essays by 20 living exiled writers, each on some famous political exile of the past.

In *Liberal Education* (Holt) Mark Van Doren appraises our educational aims with reference to our military present and our democratic future. Margaret Monro's studies of five saints illustrate the varieties and probe the meaning of sainthood from a Catholic point of view in *A Book of Unlikely Saints* (Longmans). *For Hilaire Belloc* (Sheed) is a collection of essays in honor of Belloc's 71st birthday by friends and admirers, edited by Douglas Woodruff.

LITERARY REMINISCENCES

In *Connecticut Yankee* (Yale U.P.), Wilbur Cross looks back on his many-faceted life as teacher and dean at Yale, author of definitive studies of Fielding and Sterne, editor of the Yale Review, and four times governor of Connecticut. *Heathen Days* (Knopf) is the third volume of H. L. Mencken's salty memoirs, bringing them up to 1936. *Memoirs of a Superfluous Man* (Harper) is Albert Jay Nock's commentary on his life and times in a period of declining civilization. He thinks well of the former and ill of the latter. Thomas Wolfe's *Letters to his Mother* (Scribner's) introduced by John Skally Terry is a revealing self-portrait of the gifted writer in his tragic struggle against time, poverty, and the foreknowledge of early death.

Mrs. Belloc Lowndes continues her graceful reminiscences in a second volume, *Where Love and Friendship Dwelt* (Dodd, Mead), which deals mainly with her young girlhood among French relatives and friends. *The World of Yesterday* (Viking) by Stefan Zweig is the Viennese writer's story of a world now dead which he himself did not long survive. In *Dune Boy* (Dodd, Mead), Edwin Way Teale, author of *Near Horizons* and winner of the John Burroughs award, tells of his boyhood on an Indiana farm, the early awakening of his love of nature, and first efforts to write. Kathleen Coyle, the Irish novelist, writes with imagination and realism of her childhood in *The Magical Realm* (Dutton). *Country Cured* (Harper) is Homer Croy's account of his journey from boyhood on a Missouri farm to authorship and city life in the East and back again. Ferris Greenslet, publisher, editor, and author, tells in *Under the Bridge* (Houghton, Mifflin) of the difficulties and delights of publishing, of his discoveries of distinguished writers and literary friendships. *Harvest Of My Years* (Bobbs-Merrill) is Channing Pollock's story of his life as playwright and theatrical press agent on Broadway.

In *The Complete Life* (Messner) John Erskine delves into his rich experience of literature, music and the other arts and finds them essential to the art of life.

We Followed Our Hearts to Hollywood (Dodd, Mead) is the popular and amusing sequel to the 1942 and half of 1943's best seller *Our Hearts Were Young and Gay,* by one of the authors, Emily Kimbrough. Robert Nathan's *Journal for Josephine* (Knopf) is the diary of a summer on Cape Cod in the first year of the war.

THE ARMY'S BELLES LETTRES

The most popular book of 1942, *See Here, Private Hargrove* (Holt) by Marion Hargrove maintained its high place through half of 1943. After that, the first popular book was *% Postmaster* (Crowell), written and illustrated by Thomas R. St. George. *Love At First Flight* (Whittlesey), also well received, is by Charles Spaulding and Otis Carney, illustrated by Carl Rose. Among other entertaining books are *As I See It, Story Drawings of Life in the Army* (Knopf) by L. T. Shakleford, formerly with the Disney Studio; Robert C. Osborn's *Dilbert* (Coward McCann), whose hero is the perfect model of how not to succeed as an aviator; *Me and the Army* (American Artists Group) by Corporal Gaige, illustrated by the author; *It's A Cinch, Private Finch* (Whittlesey) by Harry Brown, drawings by Ralph Stein; and *Salute Me!* (Whittlesey) by George Bristol.

THE AMERICAN SCENE

Rivers of America.—In the *Rivers of America series* (Farrar and Rinehart) Branch Cabell and A. T. Hanna wrote *The St. Johns,* illustrated by Doris Lee. Dale L. Morgan wrote *The Humboldt,* illustrated by Arnold Blanch. *Twin Rivers: The Raritan and the Passaic* is by Harry Emerson Wildes, illustrated by Angele di Benedetto. Harry Hansen wrote *The Chicago,* illustrated by Harry Timmins. A companion volume, *Songs of the Rivers of America,* is edited by Carl Carmer, with music arranged by Dr. Abert Sirmay.

America at War.—*Under Cover* (Dutton), the most sensationally popular book of the year (532,000 copies in the first 15 weeks), is John Roy Carlson's documented account of his investigations of America's Nazi Fifth Column in New York, while posing as a member of it. *Assignment, U.S.A.* (Reynal) is Selden Menefee's report on a 15,000-mile journey through 41 states to observe the effect of the war on communities and people. Pearl Buck's essays and addresses toward a better understanding between races and nations are collected in *What America Means To Me* (John Day).

The South.—*The Bayous of Louisiana* by Harnett T. Kane, illustrated with photographs, describes the isolated traditional life of the descendants of the Acadians (Morrow). Roderick Peattie edits *The Great Smokies and the Blue Ridge* (Vanguard), the story of the Southern Appalachians by several authors, with photographs. *Atlanta, A City of the Modern South* is a compilation by the W.P.A. in the *American Guide Series,* illustrated (Smith).

The Southwest.—*Cow by the Tale* (Houghton, Mifflin), Jesse James Benton's narrative of his life in Texas and Arizona since 1872, reads like a wild west dream and is a real contribution to Americana. James R. Masterson's studies in history and folklore result in a high-spirited combination of both in *Tall Tales of Arkansaw* (Chapman). *Santa Fe N.M.* (Hastings) is a camera chronicle by Ernest Knee in the Visage of America series.

The East.—*The Port of Newport* (Doubleday) by Arthur Bernon Tourtellot tells how the city rose from rowdy beginnings to be an ultra-fashionable resort. *The Maine Idea* (Harcourt) is illustrated by text and pictures by Keith Jennison, author of *Vermont is Where You Find It.*

The Northwest.—*Montana, High, Wide and Handsome* (Yale U.P.) is the vigorously told story of the state by Joseph Kinsey Howard. In *Snow Above Town* (Norton) Donald Hough writes appreciatively of life and people in a valley of the Tetons in Wyoming.

The North.—*War Discovers Alaska* (Lippincott) by Joseph Driscoll shows how the war is putting an end to Alaska's remoteness and initiating a new era of development. Ales Hrdlicka's *Alaska Diary, 1926-1931* (Cattell) draws attention to the rapidly vanishing treasures of archaeology and folklore still to be explored. In *Klondike Mike, An Alaskan Odyssey* (Morrow) Merrill Dennison takes down Mike Mahoney's colorful memories and debunks some famous gold rush legends. *Alaska Challenge* (Dodd, Mead) by Bill and Ruth Albee describes a honeymoon journey in the North.

AMERICAN PERIOD PIECES

This Was New York (Doubleday, Doran) by Frank Monaghan and Marvin Lowenthal reconstructs the life of the city in 1789 when it was the capital and Washington was President. In *Excuse My Dust* (Whittlesey) Bellamy Partridge tells how the coming of the automobile changed life in upstate New York. C. E. Ladd and E. R. Eastman recall amusing incidents of boyhood on Central New York farms in *Growing Up in the Horse and Buggy Days* (Nesterman).

THE AMERICAS

Chile (Knopf), by Erna Fergusson tells what Chile is like and what its people are like, often in their own words, with illustrations. Benjamin Subercaseux writes also of *Chile: A Geographic Extravaganza* (Macmillan), Angel Flores, translator, described as geography turned into poetry. *Ecuador* is Albert B. Franklin's portrait of a people with whom he has walked, talked, and lived. In *Pent House in Bogota* (Reynal) Virginia Paxton tells of a first year in Colombia's capital. Edward Tomlinson, in *The Other Americans* (Scribner's), writes of folkways in 20 republics. *Sleeping Island* (Coward, McCann) by P. G. Downes, with photographs, is about the Indians and the land in the unchanging North of the Canadian Barrens.

MISCELLANY

The Shock of Recognition (Doubleday, Doran), edited by Edmund Wilson, shows the development of American literature as recorded by famous American writers. *Vogue's First Reader* (Messner), introduced by Frank Crowninshield, contains an immense variety of contributions by a long list of well-known writers, all of which have appeared in its pages. *New Directions in Prose and Poetry 1942* (New Directions), edited and introduced by James Laughlin, is an anthology of experimental writing in many genres, including examples of literary surrealism and abstraction.

In *Home Front Memo* (Harcourt) Carl Sandburg collects his speeches, poems, and newspaper columns since 1939. *Long, Long Ago* (Viking) is a posthumous selection from the writings of Alexander Woollcott in his last ten years, on the order of *While Rome Burns*.

Notable anthologies of national literatures include *A Treasury of Russian Literature* (Vanguard), edited and introduced by Bernard Guilbert Guerney, covering the whole range up to the present, and *Treasury of Russian Life and Humor* (Coward, McCann), edited by John Cournos, covering the past century. *The Wisdom of India and China* (Random), edited by Lin Yutang, is another comprehensive collection.

Among many excellent collections of cartoons the most popular was *You're Sitting On My Eyelashes* (Random) by Whitney Darrow, Jr. of the *New Yorker*. The queer doings in George Price's *Who's in Charge Here?* (Farrar), also from the *New Yorker*, were greatly appreciated. *Cartoon Cavalcade* (Simon and Schuster), edited by Thomas Craven, is a rich treasury of four decades of American graphic humor. In *Best Cartoons of 1943* (Crown) edited by Lawrence Lariar the artists made their own selections. Gurney Williams edits the lively reactions of *Collier's* writers and artists to our times in *It's a Funny World* (McBride).

ENGLISH LANGUAGE AND LITERATURE

By Allan G. Chester
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GENERAL

The present survey of American research in the field here covered, like preceding surveys, is selective. Many studies concerned with details too technical for the layman are omitted although they are often of considerable importance to the philologist and the literary historian. A complete list of such contributions will be found in the bibliography by A. C. Baugh, M. A. Shaaber, and A. G. Chester in the Supplement to the *Publications of the Modern Language Association* (PMLA).* The reader should also consult Hardin Craig's "Recent Literature of the English Renaissance" (*SP*), Richmond P. Bond's "English Literature, 1660-1800: A Current Bibliography" (*PQ*), Walter Graham's "The Romantic Movement: A Current, Selective and Critical Bibliography" (*ELH*), and the "Victorian Bibliography" (*MP*), compiled by the Victorian research group of the Modern Language Association, all of which except the first include foreign as well as American work. H. K. Russell, "Theses for the Year" (*South Atlantic Bull.*) lists M.A. and Ph.D. theses, published and unpublished, in English and the modern languages.

THE ENGLISH LANGUAGE

Prime Minister Churchill's allusion to "Basic English" in his address at Harvard unleashed a flood of comment upon that proposed "universal language" which is discussed elsewhere by the present writer in this issue of The American Year Book. The discussion of the semantic approach to language, literature, and life continues unabated, and attention should be called to *A Theory of Meaning Analyzed: Two Papers from the Second American Congress on General Semantics* (*General Semantics Monographs,* No. 3) by Thomas C. Pollock and John G. Spaulding, and to "Some Misconceptions about General Semantics" by Francis P. Chisholm (*College English*). Kenneth L. Pike's *Phonetics, A Critical Analysis of Phonetic Theory and a Technic for the Practical Description of Sounds* (Univ. of Michigan) is of interest to the philologist and phonetician, while Arthur G. Kennedy's *English Usage: A Study in Policy and Procedure* concerns itself with the practical problems confronting the teacher of English. Students of the history of the language will welcome William Matthews' *English Pronunciation and Shorthand in the Early Modern Period* (Univ. of Calif.) and H. T. Webster's "The Canting Language: Some Notes on Old Underworld Slang" (*College English*).

The English language as it is spoken in America continues to engage the attention of linguistic scholars. Part 17 of *A Dictionary of American English on Historical Principles,* edited by Sir William Craigie and James R. Hulburt, has been published by the University of Chicago Press and covers that section of our vocabulary between *school-keeping* and *snow*. Joseph S. Hall has written on *The Phonetics of Great Smoky Mountain Speech,* while A. W. Reed and a group of collaborators have discussed *Needed Research in American English.*

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* Periodicals are cited under the following abbreviations, the reference being always to the volume for the year covered by this review:—PMLA, *Publications of the Modern Language Association of America;* MP, *Modern Philology;* MLN, *Modern Language Notes;* MLR, *Modern Language Review;* JEGP, *Journal of English and Germanic Philology;* SP, *Studies in Philology;* PQ, *Philological Quarterly;* ELH, *A Review of English Literary History;* RES, *Review of English Studies;* ELH, *English Literary History;* HLQ, *Huntington Library Quarterly;* SAB, *Shakespeare Association Bulletin;* RR, *Romanic Review;* MLQ, *Modern Language Quarterly;* JHI, *Journal of the History of Ideas*. Titles appearing as theses or in the publications of universities are followed where possible by the name of the university.

With so much of our attention directed towards the Pacific, special interest attaches to J. A. W. Bennett's "English As It Is Spoken in New Zealand" (*Am. Speech*), Sidney J. Baker's "French Beach-la-mar in New Caledonia" (*ibid.*), and Robert A. Hall's "Notes on Australian Pidgin English" (*Language*).

GENERAL LITERATURE

The year 1943 was not especially productive of works dealing with subjects which cut across large areas of English literature. Moody and Lovett's standard *History of English Literature* has been edited by Fred B. Millett. Warren Beck, in "The Boundaries of Poetry" (*College English*), and Robert P. Warren, in "Pure and Impure Poetry" (*Kenyon Rev.*), both discuss matters of interest to students of poetic theory. Edward C. Wagenknecht's *Cavalcade of the English Novel, from Elizabeth to George VI* has received favorable notice. In *Climates of Tragedy* (Univ. of Louisiana), William V. and Mary A. O'Connor attempt to indicate the philosophical attitudes that obtain in eras of great dramatic tragedy. Edward D. Coleman has compiled a bibliography of *The Jew in English Drama.*

Somewhat more specialized than the aforementioned is Russell K. Alspach's *Irish Poetry, from the English Invasion to 1798* (Univ. of Penn.), which attempts to show how Gaelic mythology and poetry were put into English in the 16th, 17th, and 18th centuries. As a kind of footnote to Professor Alspach's work, Miles Dillon has written "Acta et Agenda Hibernica" (*SEGP*), an account of the literary and scholarly tradition in Ireland before the so-called Celtic Renaissance. In this section also should be mentioned Edwin C. Bolles's excellent work on *The Literature of Sea Travel Since the Introduction of Steam, 1830-1930* (Univ. of Penn.).

OLD ENGLISH

In the field of Old English literature the year's most ambitious work is Professor Charles W. Kennedy's *The Earliest English Poetry: A Critical Survey of the Poetry Written before the Norman Conquest with Illustrative Translations.* Kemp Malone's studies of Anglo-Saxon versification continue with "Plurilinear Units in Old English Poetry" (*RES*), a discussion of the development of the run-on line. Among the numerous articles on the Beowulf poem may be noted Sherman M. Kuhn's "The Sword of Healfdene" (*JEGP*), Henry B. Woolf's "A Note on the Hoard in *Beowulf*" (*MLN*), and the same author's "Subject-Verb Agreement in *Beowulf*" (*MLQ*). Arthur G. Brodeur has written on *The Climax of the Finn Episode* (Univ. of California). In "*The Wanderer:* Theme and Structure" (*JEGP*), Bernard F. Huppé argues that the *Wanderer* is a structurally articulate poem unified by a single Christian theme. Apart from these studies of Old English poetry, the most considerable work in this period is Alan S. Ross's "Prolegomena to an Edition of the Old English Gloss to the Lindisfarne Gospels" (*JEGP*).

MIDDLE ENGLISH

The year saw the publication of *An Index of Middle English Verse,* an invaluable register, by Carleton F. Brown and Rossell H. Robbins, of all poems written in English before 1500. Mr. Robbins has also, in "Two New Carols" (*MLN*), supplied the text of "Gabriel of High Degree" and "All hail Mary and well thou be." In a similar vein are S. Harrison Thomson's "*Dulce Jesu Memoria* in Anglo-Norman and Middle French" (*Medieval Acad.*) and Howard Meroney's textual notes on the 13th century poem "Man Must Fight Three Foes" (*MLN*).

In the field of the romance, John J. Parry has compiled "A Bibliography of Critical Arthurian Literature for the Year 1942" (*MLQ*). In "More on the Arthuriana of Nennius" (*MLN*) William A. Nitze cites further evidence from Nennius in support of the belief that the earliest Arthurian lore manifested itself in the north of England. Robert J. Geist has written "On the Genesis of *The King* of Tars" (*JEGP*), while Bertram Vogel has discussed "Secular Politics and the Date of Lancelot of the Laik" (*SP*), and Roger S. Loomis has called attention to "More Celtic Elements in *Sir Gawain and the Green Knight*" (*JEGP*).

For the 14th century, W. Nelson Francis has edited *The Book of Vices and Virtues,* an English translation of the *Somme le Roi* of Lorens d'Orleans. Morton W. Bloomfield supplies an affirmative answer to the question "Was William Langland a Benedictine Monk?" (*MLQ*), while J. A. Bennett discusses "The Date of the A-Text of *Piers Plowman*" (*PMLA*). Leo J. Henkin's "The Carbuncle in the Adder's Head" (*MLN*) is on the sources of an episode in Gower's *Confessio Amantis.*

CHAUCER

Florence G. Scott's "Chaucer and the Parliament of 1386" (*Speculum*) is concerned with Chaucer's political opinions. E. Hudson Long writes of "Chaucer as a Master of the Short Story" (*Delaware Notes*), and Ruth J. Bradley discusses "The Use of the Cockney Dialect by Chaucer" (*Quar. Jour. of Speech*). Carleton Brown revives some older theories concerning "The Date of Prologue F to the *Legend of Good Women*" (*MLN*), while a partial source for the same poem is the theme of Joseph A. Bryant's "Another Appetite for Form" (*ibid.*). M. W. Stearns's "A Note on Chaucer's Attitude towards Love" (*Speculum*) is concerned with the *Book of the Duchess.* All work dealing with the *Canterbury Tales* has been concerned with matters of detail. Of numerous articles, the following may be cited: Germaine Dempster, "Chaucer's Manuscript of Petrarch's Version of the Griselda Story" (*MP*); Reginald Call, "'Whan He His Papir Soghte' (*Cook's Tale*)" (*MLQ*); Chester L. Sharer, "Chaucer's 'Owles and Apes'" (*MLN*); Karl Young, "The 'Secree of Secrees' of Chaucer's Canon's Yeoman" (*ibid.*); Henry Savage, "'Seint Julian He Was'" (*ibid.*).

FIFTEENTH CENTURY

Robert H. Wilson's "The 'Fair Unknown' in Malory" (*PMLA*) is a study of Malory's source for the story of Gareth. The same scholar has discussed "Malory's Naming of Minor Characters" (*JEGP*). Neil C. Brooks prints the text of "A Latin Morality Dialogue of the Fifteenth Century" (*ibid.*). In "Henryson and the Political Scene" (*SP*), Marshall W. Stearns traces allusions to contemporary events in Henryson's fables.

EARLY TUDOR

Leonard F. Dean's "Literary Problems in More's *Richard III*" (*PMLA*) is on Sir Thomas More's conformity to classical theory, especially in his use of irony, and his expression of the Christian humanist's conception of the life of faith and reason. William Nelson has written on "Thomas More, Grammarian and Orator" (*PMLA*). The same author's "New Light on Alexander Barclay" (*RES*) provides several biographical items concerning Barclay from the episcopal registers of Exeter and Ely.

ELIZABETHAN

Donald J. McGinn's "The Real Martin Marprelate" (*PMLA*) adduces evidence for the identification of John Penry as the author of the famous Puritan tracts. A timely as well as an historical interest attaches to Henry J. Webb's "Barnabe Rich—Sixteenth Century Military Critic" (*JEGP*). Rudolf B. Gottfried has written on "The Early Development of the Section on Ireland in Camden's *Britannia*" (*ELH*), while in "Sidney's Two Definitions of Poetry" (*MLQ*) Cornell M. Dowlin calls attention to Sidney's indebtedness to Plato for a famous passage in the *Defense of Poetry.*

C. T. Prouty has edited Gascoigne's

A Hundreth Sundrie Flowres (Univ. of Missouri), and Edwin J. Howard has edited the satiric *Pleasant Quippes for Upstart Newfangled Gentlewomen.* Angelo M. Pellegrini's "Bruno, Sidney, and Spenser" (*SP*) contains a denial of the supposed influence of Bruno on the two English poets. Jeannette Fellheimer has written on "The Source of Richard Lynche's 'Amorous Poeme of Don Diego and Gineura'" (*PMLA*), while William Frost has given us *Fulke Greville's Caelica: A Critical Evaluation.* Samuel A. Tannenbaum has added *Samuel Daniel: A Concise Bibliography* to his ever-growing Elizabethan Bibliographies.

SPENSER

For Spenser, Charles G. Osgood's edition of *The Minor Poems* has now appeared in the variorum edition of that poet. In "'G. W. Senior' and 'G.W.I.' of Spenser's Amoretti" (*MLQ*), Rudolf Gottfried has identified the authors of the complimentary sonnets signed with these initials as the two Geoffrey Whitneys, father and son. Two articles dealing with the *Shepheardes Calender* may be noted: Josephine W. Bennett's "St. Bridget, Queen Elizabeth, and *Amadis of Gaul*" (*ELH*), which refers to the July eclogue; and Louis S. Friedland's "Spenser's Wrenock" (*SAB*), which criticizes previous identifications of Colin Clout's tutor referred to in the December eclogue. Grace W. Landrum has written on "Imagery of Fire in the *Faerie Queene*" (*ibid.*), and in "The Puritan Argument in Spenser" (*PMLA*), Jefferson B. Fletcher points out parallels between the Puritanism of the earlier poems and that of the *Faerie Queene.* Merritt Y. Hughes has traced the relationship between "Spenser's Acrasia and the Circe of the Renaissance" (*JHI*), while Roland M. Smith has called attention to the Irish sources of "Spenser's Tale of the Two Sons of *Milesio*" (*MLQ*). Spenser's *View of Ireland* has been the subject of three articles—Roland M. Smith's "The Irish Background of Spenser's *View*" (*JEGP*), Walter J. Ong's "Spenser's *View* and the Tradition of the 'Wild Irish'" (*MLQ*), and the late Ray Heffner's "Spenser's *View of Ireland:* Some Observations" (*ibid.*).

THE DRAMA TO 1642

The only complete treatment of Elizabethan drama to appear during the year is *A Short View of Elizabethan Drama; together with Some Account of Its Principal Playwrights and the Conditions under which It Was Produced,* by Thomas M. Parrott and Robert H. Ball. William J. Griffin has supplied some "Notes on Early Tudor Control of the Stage" (*MLN*), while Henry W. Wells has written "A Mirror of National Integration: A New Summary of Four Decades of the English Theatre [1550-1590]" (*SAB*). Lawrence Babb's "Sorrow and Love on the Elizabethan Stage" (*ibid.*) is on the actors' conventional expression of these emotions. In "The Case for Comedy in Caroline Theatrical Apologetics" (*PMLA*), Joe L. Davis presents some contemporary replies to William Prynne's celebrated charges of immorality.

William Ringler's *Stephen Gosson* (Princeton) is a biographical and critical study of the author of an early attack on the stage. Among many articles on individual playwrights, the following may be cited: Leo Kirschbaum, "Marlowe's *Faustus:* A Reconsideration" (*RES*); W. L. Halstead's "An Explanation for the Two Editions of Marston's *Fawne*" (*SP*); Brents Stirling, "Daniel's *Philotas* and the Essex Case" (*MLQ*); R. C. Bald, "An Early Version of Middleton's *Game at Chess*" (*MLR*); George F. Reynold's "The Dramatic Quality of Jonson's Masques" (*PQ*); Ernest W. Talbot, "New Light on Ben Jonson's Workmanship" (*SP*) and "The Classical Mythology and the Structure of Cynthia's Revels" (*PQ*); Ralph W. Berringer, "Jonson's *Cynthia's Revels* and the War of the Theatres" (*ibid.*); Harry Levin, "Jonson's Metampsychosis" (*ibid.*), an interpretation of *Volpone*.

SHAKESPEARE

Two books by those who continue to deny Shakespeare's authorship of the plays have appeared. William Kittle's *Edward de Vere, Seventeenth Earl of Oxford* re-states the claims for Oxford, while Alden Brooks's *Will Shakespeare and the Dyer's Hand* preposterously attributes the plays to Sir Edward Dyer. In *Shakespeare's Satire* Oscar J. Campbell associates Shakespeare with the satiric tendencies of the age. Samuel A. Small's "Shakespeare's Stage Business" (*SAB*) is on Shakespeare's growing interest in inner conflict in his tragedies. Mark Eccles has written on "Shakespeare's Use of *Look How* and Similar Idioms" (*JEGP*). John W. Draper's "Dogberry's Due Process of Law" (*JEGP*) is on the legal quiddities underlying the low comedy of *Much Ado*. In "The Text of 'Shakespeare's Plutarch'" (*HLQ*) Robert A. Law finds evidence that Shakespeare used the 1579 edition of North's work. The same author has written on "The Roman Background of *Titus Andronicus*" (*SP*). A. T. Price's "The Authorship of *Titus Andronicus*" (*JEGP*) reviews all the evidence and finds for the theory of Shakespeare's authorship. Thomas D. Bowmen's "A Further Study in the Characterization and Motivation of Iago" (*College English*) and Elmer E. Stoll's "Source and Motive in *Macbeth* and *Othello*" (*RES*) are of particular interest in a year which has seen Paul Robeson's distinguished performance of *Othello*. In "Notes on the Integrity of *Troilus and Cressida*" (*RES*) Arthur Sewell finds evidence that the play is not "all of one piece."

SEVENTEENTH CENTURY

The year's only important study of the prose of this period is Karl R. Wallace's *Francis Bacon on Communication and Rhetoric* (Univ. of N. Carolina), an evaluation of Bacon's theory of communication as it emerges in his various writings.

For the poets, William White has compiled *John Donne Since 1900: a Bibliography of Periodical Articles*. R. E. Bennett has written on the relations of "John Donne and the Earl of Essex" (*MLQ*), while Don C. Allen has made a study of "John Donne's Knowledge of Renaissance Medicine" (*JEGP*). Sue Maxwell has called attention to the source of Shakerly Marmion's *Cupid and Psyche*" (*Am. Jour. of Philology*), while Harry Levin has edited the Earl of Rochester's *A Satire Against Mankind, and Other Poems*. John F. Moore has made a study of the background of "Rochester's *Satyr against Mankind*" (*PMLA*). Benjamin Boyce's "News from Hell: Satiric Communications with the Other World in English Writing of the Seventeenth and Eighteenth Centuries" (*PMLA*) supplies a list of 201 satires. R. A. Aubin is the editor of *London in Flames: London in Glory: Poems on the Fire and Rebuilding of London, 1666-1709*.

MILTON

G. Blakemore Evans's "Milton and the Hobson Poems" (*MLQ*) prints the texts of seven poems by various writers on the death of Hobson the carrier. Thomas P. Harrison has written on "The 'Haemony' Passage in *Comus* Again" (*PQ*), while Thomas P. Stroup has discussed "Implications of the Theory of Climatic Influence in Milton" (*MLQ*), and Gretchen L. Finney has commented upon the "Chorus in *Samson Agonistes*" (*PMLA*). Several studies of Milton's polemical writings have appeared. Among them are A. Barker's *Milton and the Puritan Dilemma, 1641-1660*; Merritt Y. Hughes's "Milton as a Revolutionary" (*ELH*); and George B. Parks's "The Occasion of Milton's *Muscovia*" (*SP*). In "Milton's Use of Latin Formularies" (*ibid.*), Nathalia Wright points out correspondences in Milton's letters to the rules of epistolary composition.

RESTORATION DRAMA

In "Dryden's *Essay of the Dra-*

matic Poetry of the Last Age" (*PQ*) Hoyt Trowbridge argues that this essay does not contradict the *Essay of Dramatic Poesy.* Baxter Hathaway has written "John Dryden and the Function of Tragedy" (*PMLA*), while Ruth Wallerstein has studied "Dryden and the Analysis of Shakespeare's Techniques" (*RES*). The same author has given us "To Madness Near Allied: Shaftesbury and His Place in the Design of *Absalom and Achitophel*" (*HLQ*). J. McG. Bottkol's "Dryden's Latin Scholarship" (*MP*) is a vindication of Dryden's classical attainments. Elmer E. Stoll's "The 'Real Society' in Restoration Comedy: Hymeneal Pretenses" (*MLN*) is a further exposition of the author's view of the gulf which separates life from art.

EIGHTEENTH CENTURY POETS

That Defoe was the author of a well-known anonymous poem is asserted in Charles E. Burch's "The Authorship of *A Scots Poem* (1707)" (*PQ*). Majl Ewing has written on "Musical Settings of Prior's Lyrics in the Eighteenth Century" (*ELH*). Two volumes of John Butt's Twickenham edition of *The Poems of Alexander Pope* have been published —volume 2, "The Rape of the Lock," and volume 4, the "Imitations of Horace." Maynard Mack has written "Pope's Horation Poems: Problems of Bibliography and Text" (*MP*). Wallace C. Brown, in "Charles Churchill: a Revaluation" (*SP*), argues that Churchill owes as much to Pope as to Dryden and that his verse is not as crude as it is commonly said to be. Another work of interest to students of this period is *Isaac Watts, His Life and Works,* by Arthur P. Paul.

For the poets who are usually regarded as the precursors of romanticism, John E. Wells has written "James Thomson's Minor Poems—More Manuscripts" (*PQ*) and "Thomson's *Seasons* 'Corrected and Emended'" (*JEGP*), the latter being an account of the textual alterations in the 1750 edition of Thomson's works. Leo Kirschbaum's "The Imitations of Thomas Warton the Elder" (*PQ*) and Robert Halsband's "A Parody of Thomas Gray" (*PQ*) should also be mentioned. Robert T. Fitzhugh and De Lancey Ferguson are the editors of *Robert Burns, His Associates and Contemporaries: The Train, Grierson, Young, and Hope Manuscripts; with The Journal of the Border Tour* (Univ. of North Carolina).

PROSE WRITERS OF THE EIGHTEENTH CENTURY

Godfrey Davies's "Swift's *The Story of the Injured Lady*" (*HLQ*) assigns to the year 1707 this allegorical account of Irish relations with England. In "Swift's *Modest Proposal:* The Biography of an Early Georgian Pamphlet" (*JHI*) George Wittkowsky argues that the *Modest Proposal* is a tract dealing with current mercantilist theories, not merely a satire against conditions in Ireland. J. H. Neumann's "Jonathan Swift and the Vocabulary of English" (*HLQ*) is a summary of Swift's opinions and usage with respect to the language.

E. L. McAdam has written "Johnson's Lives of Sarpi, Blake, and Drake" (*PMLA*). J. H. Hagstrum's "The Sermons of Samuel Johnson" (*MP*) is concerned with problems of authenticity. In "Robert Merry: A Pre-Byronic Hero" (*Bull. John Rylands Library*) James L. Clifford publishes letters from Merry to Johnson's friend Mrs. Piozzi. Students of the Johnsonian circle will be interested also in Louis and Edwina Martz's "Notes on Some Manuscripts Relating to David Garrick" (*RES*).

Isabel N. Chase's *Horace Walpole: Gardenist* is an edition of Walpole's writings on gardening and landscape architecture. During the year several works on Hume appeared—Ernest C. Mossner's *The Forgotten Hume: Le Bon David* (Columbia); Monroe C. Beardsley's "A Dilemma for Hume" (*JHI*); and Marjorie Grene's "Hume: Sceptic or Tory" (*ibid.*) Here may be noted also Winifred

Lynskey's "The Scientific Sources of Goldsmith's *Animated Nature*" (*SP*).

Two general studies of 18th century fiction may be mentioned—John T. Taylor's *Early Opposition to the English Novel: The Popular Reaction from 1760 to 1830* and Robert D. Mayo's "How Long Was Gothic Fiction in Vogue" (*MLN*). Alan D. McKillop's "Samuel Richardson's Advice to an Apprentice" (*JEGP*) is an account of the anonymous *Apprentice's Vade Mecum,* which is here attributed to Richardson. Lodwick Hartley has written *This Is Lorence: A Narrative of the Reverend Laurence Sterne* (Univ. of N. Carolina).

NINETEENTH CENTURY ESSAYISTS

Alan L. Strout has published "A Study in Periodical Patchwork: John Wilson's *Recreations of Christopher North,* 1842" (*MLR*) and "Some Unpublished Letters of John Gibson Lockhart to John Wilson Croker" (*N&Q*). Ralph M. Wardle, in "Who Was Morgan Odoherty?" (*PMLA*), identifies various contributors to *Blackwood's* who used this pseudonym. Walter E. Houghton has made a study of "Lamb's Criticism of Restoration Comedy" (*ELH*), while Sigmund K. Proctor has written on *Thomas De Quincey's Theory of Literature* (Michigan), and Jay B. Hubbell has published "Some New Letters of Walter Savage Landor" (*Virginia Mag. of Hist. and Biog.*).

Carlisle Moore's "Carlyle's 'Diamond Necklace' and Poetic History" (*PMLA*) is an analysis of the devices by means of which Carlyle imparts "poetry" to history. Irene P. McKeehan has published "Carlyle, Hitler, and Emerson: A Comparison of Political Theories" (*Univ. of Colorado Studies*). Charles F. Harrold is the editor of *A Newman Treasury: Selections from the Prose Works of John Henry Cardinal Newman.* Warren Staebler's *The Liberal Mind of John Morley* (Univ. of Cincinnati) is a study of Morley's ideals.

NINETEENTH CENTURY FICTION AND POETRY

Coleman O. Parson's "The Dalrymple Legend in *The Bride of Lammermoor*" (*RES*) is a study of the versions of the family legend used by Scott. The same author has written on "The Interest of Scott's Public in the Supernatural" (*N&Q*). Gerald G. Grubb's "Dickens' Editorial Methods" (*SP*) reveals Dickens as a painstaking and tactful editor. Lewis F. Haines has published "Reade, Mill, and Zola: A Study of the Character and Intention of Charles Reade's Realistic Method" (*SP*), while John R. Moore, in "Defoe, Stevenson, and the Pirates" (*ELH*), has made a study of Stevenson's indebtedness to Defoe. Carl Weber continues his studies of Hardy with *Thomas Hardy in Maine* and "A Masquerade of Noble Dames" (*PMLA*), the latter being a study of three versions of the ninth story in *A Group of Noble Dames.*

Several valuable studies of Wordsworth have appeared. Among them are George W. Meyer's *Wordsworth's Formative Years* (Univ. of Michigan); Elizabeth Geen's "The Concept of Grace in Wordsworth's Poetry" (*PMLA*); and George L. Marsh's *"The Peter Bell* Parodies of 1819" (*MP*). The only extended work of the year on Keats is Blanche C. Williams's *Forever Young: A Life of John Keats.* Several Shelley articles may be listed: James A. Notopoulos's "The Platonic Sources of Shelley's 'Hymn to Intellectual Beauty'" (*PMLA*) and "The Dating of Shelley's Prose" (*ibid.*); Kenneth W. Cameron's *"Rasselas* and *Alastor:* A Study in Transmutation" (*SP*) and "The Political Symbolism of *Prometheus Unbound*" (*PMLA*). Mention should be made also of Elizabeth Nitchie's "Mary Shelley's *Matilda:* an Unpublished Story and Its Biographical Significance" (*SP*) and Frederick Jones' "Mary Shelley and Claire Claremont" (*So. Atlantic Quar.*).

For the Victorians, John Eidson has written *Tennyson in America* (Univ. of Georgia), a study of Tennyson's reputation and influence in this country, while Edgar F. Shannon has made a study of "Tennyson and the Reviewers, 1830-1842" (*PMLA*). T. H. Motler has edited *The Writings of Arthur Hallam,* the friend of Tennyson whose death led to the writing of *In Memoriam.* Francis W. Palmer raises the question "Was Clough a Failure?" (*SP*) and gives a sympathetic reappraisal of one of the "poets of doubt." In "Swinburne: *Changes of Aspect* and *Short Notes*" (*PMLA*) Clyde K. Hyder prints the text of two critical pieces from MSS in the Huntington Library. John Pick's *Gerard Manley Hopkins, Priest and Poet* is a biography of a 19th century poet whose reputation has increased with the years since his death.

The year's only study of the 19th century drama is E. J. West's "The London Stage, 1870-1890" (*Univ. of Colorado Studies*).

CONTEMPORARY LITERATURE

Stanley J. Kunitz and Howard Haycraft are the compilers of *Twentieth Century Authors: A Biographical Dictionary of Modern Literature.* Lucille R. Carpenter has written *Rudyard Kipling, a Friendly Profile;* and Elizabeth Hudson has compiled *A Bibliography of the Works of Somerville and Ross.* Lionel Trilling's *E. M. Forster* is designed as a guide to the more esoteric elements in Forster's novels. Ferris Greenslet, in "John Buchan" (*Atl. Mo.*), has given his personal recollections of the late Governor-General of Canada, (Lord Tweedsmuir) who was also a distinguished man of letters.

Among the poets, Yeats continues to engage the attention of scholars. Russell K. Alspach points out "Some Sources of Yeats's *The Wanderings of Oisin*" (*PMLA*), while Walter E. Houghton's "Yeats and Crazy Jane: the Hero in Old Age" (*MP*) is an interpretation of *Words for Music Perhaps.* William White has printed "A Note on Some Housman Marginalia" (*PMLA*). Francis Scarfe's *Auden and After: The Liberation of Poetry, 1930-1941* is a study of the younger poets.

Ironically enough, the only study of the contemporary drama is Jacques Barzun's "Bernard Shaw in Twilight" (*Kenyon Rev.*).

BASIC ENGLISH

By Allan G. Chester
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POPULAR INTEREST

When Prime Minister Winston Churchill, in his Harvard address of Sept. 6, 1943, alluded to the potentiality of Basic English as a language of international communication, he focused public attention for the time being upon a system of simplified English which for a good many years has been provocative of discussion among scholars and teachers. In September and October, 1943, many a layman was presumably asking about Basic English, and newspapers and popular journals all over the country hastened to answer the questions thus raised.

WHAT IT IS

Devised and publicized more than a decade ago by the English scholars C. K. Ogden, I. A. Richards, and their associates, Basic English is most fully described in Mr. Ogden's *The ABC of Basic English* (1932) and *The System of Basic English* (1934). In answer to the question "What Is Basic English?" Mr. Ogden writes as follows: "Basic English is a careful and systematic selection of 850 English words which will cover those needs of everyday life for which a vocabulary of 20,000 words is frequently employed. These words are not the words most commonly used, as determined by word-counts; but all of them are common, and more than 600 of them are constantly used by any English or American child of six. There are 200 names of picturable objects and 400 other names of things; making 600 nouns in all. There are 150 adjectives. The remaining 100 words put these names and adjectives into operation, so that the whole system may work as normal English." Much is made of the fact that the whole vocabulary of Basic English can be typed on a single page. As to the grammar, the *rules* are reduced to five; the primary method of simplification has been the elimination of the verb.

PURPOSES OF BASIC ENGLISH

The proponents of Basic English adduce two chief purposes for their system: "1. To serve as an international auxiliary language; that is to say, a second language for use throughout the world in general communication, commerce, and science. 2. To provide a rational introduction to normal English; both as a first step, complete in itself, for those whose natural language is not English, and as a grammatical introduction, encouraging clarity of thought and expression, for English-speaking peoples at any stage of proficiency." It may be added that, by an extension of the second of these objectives, some of the proponents and advocates of Basic have used it also as a means for interpreting poetical or philosophical writing the meaning of which may seem obscure.

ADVANTAGES

It is the first of these purposes, of course—its use as an "international auxiliary language"—which recommends Basic to Mr. Churchill and to many other people who are beginning to think in terms of the "one world" of the future. Two questions naturally occur to one's mind—Is any such international language within the realm of possibility? If so, is Basic English better adapted to meet the requirements than other systems that have been proposed?

With respect to the first of these two questions, the wish for an international language has fathered much unconsidered optimism. The advantages are obvious—travel would be pleasanter, business could be carried on more readily, the problems of the scholar and scientist would be simplified, and the cause of world peace would be greatly advanced through the elimination of purely linguistic barriers to international amity. No one questions the advantages which would accrue if some form of international language might be generally adopted. It is discouraging, however, to realize that those whose training has been in the field of historical linguistics are the least optimistic in the matter, since they are acutely aware of the difficulties involved in attempting to impose an auxiliary language upon a sufficient number of the world's peoples to effect the desired results.

THE PROSPECTS

As to the second question, it may be affirmed with reasonable assurance that Basic English has better prospect of general acceptance than any of the 50-odd artificial languages that have been proposed in recent times, of which Volapuk and Esperanto are at least known by name to many. Certainly a universal language based upon a tongue already familiar to so many millions of the world's peoples has an initial advantage which any of the artificial languages would be hard put to overcome. Mr. Ogden puts the case thus: "Why English words? Because English is now the natural or governmental language of over 500,000,000 people. It is already the second language of the Far East; it is compulsory in countries with such diverse interests as Japan, Germany, Argentina, and Esthonia; it is the language of more than 800 of the world's 1,400 Radio stations; its structure is simpler than that of any of the other great natural languages. No other existing language can be simplified to anything like the same extent. The chief difficulties of normal English are eliminated in Basic. One result of this analysis and simplification of normal English is that Basic is very similar in character to Chinese —which gives it a special claim as a medium of communication with and in the East" (*The System of Basic English,* p. 5).

ADVERSE CRITICISM

Inevitably, a proposal such as that involved in Basic English must meet with much adverse criticism, of which that expressed in a symposium published in *The Saturday Review of Literature* for Oct. 2, 1943, may be taken as typical. Alan H. Fry objects to Basic on the ground that it does not represent an analysis of what actually takes place in the spoken language. Jacques Barzun protests that for the time being Basic will be used only by diplomats, scientists, and such—"men with more ideas than there are in Basic"—who will find it inadequate for their purposes. Willard Thorp believes that Basic will not succeed in overcoming the fundamental inertia of the human race—"I suppose something like a mass enthusiasm both within the English-speaking countries and in other lands is going to be required before Basic ceases to be a highly interesting academic development and becomes a universal tool." Finally, Carl J. Friedrick sees in Basic a dangerous expression of Anglo-American imperialism—". . . while we may succeed in getting a good many Russians to learn Basic English, it is more likely to happen if we offer them the token of good-will which consists in a good many Americans learning Basic Russian." It will be noted that these criticisms are directed partly at the structure of Basic, partly at the optimism which believes in the possibility of an international language. To these and similar objections, Mr. Richards replied with characteristic patience in the *Saturday Review* for Oct. 23.

In the meantime, the matter of the adoption of an international language must await the event. It would be hazardous to venture a prognosis. It seems likely, however, that Basic will be studied by increasing numbers in England and the United States because of the interest aroused by the Prime Minister's passing allusion to it.

ROMANCE LANGUAGES AND LITERATURES

By Madaline W. Nichols
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GENERAL

The year 1943 brought profound changes to the work of scholars in the Romance languages and literatures. Knowledge of those languages was suddenly recognized as an important tool for efficient conduct of the war; as a result professors turned from research to war service. College curricula changed rapidly to meet varying and immediate needs. Students left graduate seminars to enter the armed forces. Research was also hindered by the difficulty or impossibility of obtaining books from abroad. Paper restrictions limited the publication of research already done.

Despite all restrictions upon scholarship, however, positive values seemed to have outweighed the disadvantages. First came a general appreciation of the practical value of a knowledge of foreign languages. That value was recognized by the Army and the Navy, by various government bureaus, and by the general public. There was nothing passive in the recognition. Government funds speeded the collection of language materials for immediate war use and for future research as well.

Such projects as the recording of vagaries in the Brazilian pronunciation of Portuguese or the making of teaching records for war language use, were indicative of official support based upon cognizance of practical need. Government funds, too, furthered the improvement of language teaching; institutes and workshops were supported to implement new programs, as indicated in a report by H. E. Davis (*Hisp*, 308).[1]

One result of the general attention to language skill was the increased interest in Spanish and Portuguese neighbors of Latin America which began in the early necessity for cooperative defense of the hemisphere. Then, in the course of the year, language interests broadened in response to new needs and new military operations. Among other languages, French and Italian became of immediate war importance.

The aim of military language programs was the speedy acquisition of a speaking knowledge of language. They emphasized active use of practical but limited vocabularies, the employment of the phonograph as a training tool, and the utilization of the technical skill of trained linguists in conjunction with active use of the spoken idiom. They were supplemented by the publication of military and scientific readers, military and technical dictionaries, and conversational texts. War dominated the language programs, but their proved effectiveness may quite possibly have revolutionized language pedagogy as a whole and personal acquaintance with Romance countries on the part of travelling scholars may well have a similarly salutary effect upon Romance scholarship after the war.

BIBLIOGRAPHIES

General.—An excellent general bibliography appears annually in the Supplement of the *PMLA*. "Recent literature of the Renaissance" (*SP*, 257) included sections on French, Italian, and Spanish literatures. C. C. Zippermann surveyed the "Literary landmarks of 1942" (*BA*, 31).

French.—An article of outstanding value was H. Peyre's "Ouvrages français parus depuis la guerre (Septembre 1939-Septembre 1942)" (*RR*, 97). Other noteworthy bibliographical articles were D. F. Bond's "Anglo-French and Franco-American studies. A current bibliography" (*RR*, 154); G. Lounz' "French books after the Armistice" (*BA*, 21); and A. Schinz' "L'année littéraire" (*MLJ*, 263).

Italian.—J. G. Fucilla's "Bibliography of Italian studies in America" (*Ital*, 35) covered the period from October to December, 1942 and was continued by C. S. Singleton in 1943 (*Ital*, 81 and 141).

Portuguese (Brazilian).—S. Putnam published his regular section on the literature of Brazil in the annual *Handbook of Latin American Studies: 1941* (Harv). Other regular bibliographical sections, covering the Portuguese and Spanish languages and literatures, appeared in the *RFH* (189) and *RHM* (124, 248, 356). Bibliographical articles of Latin American interest appeared in the *Inter-American Bibliographical Review*.

Spanish.—S. E. Leavitt, I. Leonard, and A. Rosenblat were the authors of valuable surveys of the literatures and language of Spanish America appearing in the *Handbook of Latin American Studies*. (See, also, items noted under *Portuguese*). S. E. Leavitt continued his list of "Theses dealing with Hispano-American language and literature—1942" (*Hisp*, 180), while E. K. Mapes printed a "Bibliografía de tesis sobre literatura iberoamericana, preparadas en las universidades de Iberoamérica" (*RI*, 203). W. K. Jones prepared a reading list on the topic of Latin American drama (*BA*, 27 and 121). L. Kiddle added a "Bibliografía adicional para la obra de la señorita Nichols" (*RI*, XIII, 213), with its list of philological items supplementing the *Bibliographical Guide to Materials on American Spanish*. E. R. Moore and J. G. Bickley prepared a careful bibliographical study of the work of Rafael Delgado (*RI*, 155), while S. C. Rosenbaum published a bibliography of the work of Eugenio Florit (*RHM*, 222). E. E. Stowell listed "More Mexican writers and pseudonyms" (*HR*, 164).

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[1] Abbreviations used for periodicals are: *BA*, *Books Abroad; Hisp, Hispania; HR, Hispanic Review; Ital, Italica; L, Language; MLF, Modern Language Forum; MLJ, Modern Language Journal; MLN, Modern Language Notes; MLQ, Modern Language Quarterly; MP, Modern Philology; PMLA, Publications of the Modern Language Association; PQ, Philological Quarterly; RFH, Revista de Filología Hispánica; RHM, Revista Hispánica Moderna; RI, Revista Iberoamericana; RR, Romanic Review; S, Speculum; SP, Studies in Philology*. Abbreviations used for presses are: Calif, University of California; CU, Columbia University; Harv, Harvard; LaS, Louisiana State University; Ohio, Ohio State University; Stanf, Stanford University; Yale, Yale University.

LANGUAGE

General.—E. Funke discussed "Phonetics and recent developments in language study" (*MLJ*, 419), while, in the second of his "Two notes" (*L*, 258), L. Spitzer justified his belief that syntax and lexicology are "more diaphanous to the human mind" than morphology and phonology. G. Errante's *Sulla lirica romanza delle origini* (N. Y., S. F. Vanni) studied the poetic language of the troubadours and of early French poetry. L. B. Kiddle (*RI*, xiii, 204) suggested a list of words for inclusion in a new edition of M. Newmark's *Dictionary of Science and Technology in English, French, German and Spanish* (N. Y., Philosophical Library). K. G. Bottke's "Wrong division" (*MLJ*, 133) noted hybrid formations resulting from the contamination of the definite or indefinite article with certain nouns. H. C. Lindgren studied "The extent and range of foreignisms in journalistic English" (*MLJ*, 240).

French.—J. F. Broussard published a study of the *Louisiana Creole Dialect* (LaS). H. C. Lancaster wrote on "The object of *faire* with a reflexive infinitive" (*MLJ*, 513). H. C. Lindgren discussed "Understanding foreign terms used in English" (*MLJ*, 505), and T. Huebener included a list of French terms in his "An air vocabulary of 100 words" (*MLJ*, 353). Studies of individual terms included E. E. Tidrow, Jr.'s "The Old French neuter pronouns *ço* and *iço*" (*L*, 161); A. H. Gilbert's "The etymology of *dragoon:* Addendum" (*PMLA*, 580); L. Spitzer's "Francais populaire *moche*" (*RR*, 150) and his "Three French etymologies" (*L*, 156), with study of *mais*, *ribon-ribaine*, and semelle; and A. Steiner's "An unnoticed evidence of French argot in the early thirteenth century" (*MLN*, 121). Finally, in "Etudes d'anthroponymie ancienne française" (*PMLA*, 589), L. Spitzer considered *Olivier* and *Pépin le Bref*.

Italian.—"The Papal States in Italian linguistic history" (*L*, 125) by R. A. Hall, Jr., explained the presence in central Italy of certain north Italian features. H. R. Keller, Jr.'s "The development of Latin *-gn-* in southern Italy" (*L*, 230) supported the thesis that southern Italy originally had a labial treatment of the group. V. Luciani considered "Argumentatives, diminutives and pejoratives in Italian" (*Ital*, 17). M. A. Pei studied "Latin and Italian final front vowels" (*MLN*, 116).

Portuguese.—C. F. Sparkman compared "Portuguese *versus* Spanish written accents and diphthongs in rules for stress" (*Hisp*, 149). In the first of "Two notes" (*L*, 258), L. Spitzer considered Port. *estámago* as variant of *estómago*.

Spanish.—Reflecting the new interest in Latin America were many articles on the relative utility of a Castilian or a Spanish-American pronunciation. Other peculiarities of American Spanish were analyzed by I. E. Chart in "The *voseo* and *tuteo* in America" (*MLF*, 17) and by C. E. Kany in "American Spanish *amalaya* to express a wish" (*HR*, 333) and in his "Temporál conjunction *a lo que* and its congeners in American Spanish" (*HR*, 131).

The outstanding study of the Spanish language in 1943 was R. K. Spaulding's *How Spanish Grew* (Calif). W. E. Bul studied "Related functions of *haber* and *estar*" (*MLJ*, 119). M. W. Coates, *et al.*, studied

Spanish words derived from Arabic (*Hisp,* 59); R. Levy, "The vocabulary of the Escorial manuscript I.j.4" (*HR,* 57); and Y. Malkiel, "The suffix *-āgo* in Astur-Leonese-Galician dialects" (*L,* 256). C. C. Rice, in "More on κάμπτειν > Spanish *cansar* and on Greek etyma in Romance" (*L,* 154) stated the belief that the Spanish sense "to tire" reflected a meaning attested in Greek. Finally, W. Moellering discussed "The function of the subjunctive mood in *como* clauses of fact" (*Hisp,* 267).

GENERAL LITERATURE

One of the outstanding studies of the year was H. F. Lowry's *Literature in American Education,* a report prepared for the M.L.A.A. by the Commission on Trends in Education, H. G. Doyle, chairman. The problem of a criterion of truth in literature was considered by F. de Figueiredo (translation by C. E. Kany, *BA,* 112). S. A. Rhodes wrote "The case for the Surrealist poet" (*BA,* 13). A. H. Krappe defined four types of the story, "The hero champion of animals" (*MLQ,* 267), and D. E. MacKay analyzed various versions of the Don Juan story in *The double invitation in the legend of Don Juan* (Stanf).

FRENCH LITERATURE

Medieval.—H. Adolf found "A historical background for Chrétien's Perceval" (*PMLA,* 597) in William of Tyre's chronicle of the Crusades. G. O. S. Darby suggested changes in M. P. Champion's chronology in his "Observations on the chronology of Charles d'Orléans' *Rondeaux*" (*RR,* 3). In describing "The *vilain* in authority" (*MLQ,* 139), F. Fisher suggested contemporary social reasons for political allusions in *Partonopeus de Blois* and *Eracles* (Gautier d'Arras). W. A. Nitze studied the fairy-mistress theme in "The *Esplumoir Merlin*" (*S,* 69) and queried "What did Robert De Boron write?" (*MP,* xli, 1). In "Maurice de Sully" (*RR,* 109), C. Pinchbeck studied a new version of Sully's sermons. B. Vogel sought factors inspiring the "digression" on the nature and duties of a king in his "Secular politics and the date of *Lancelot of the Laik*" (*SP,* 1).

Sixteenth Century.—H. Hutton's "Ronsard and the Greek Anthology" (*SP,* 103) traced the poet's indebtedness, while C. R. Thompson compared Rabelais' chapters about the island of Papimany with the dialogue by Erasmus, in his "Rabelais and *Ivlivs Exclvsus*" (*PQ,* 80).

Seventeenth Century.—The continuity between the philosophy of Descartes and that of the XVIIIth century was studied by C. J. Beyer in "Du Cartésianisme à la Philosophie des Lumières" (*RR,* 18). J. C. Chessex considered the moral aspect of Molière's work in "Les intentions de Molière" (*MLQ,* 27), while H. C. Lancaster described "Boileau's propaganda for Molière and his troupe" (*MLQ,* 157). C. W. Miller's "*Zelinda* and Voiture" (*PQ,* 76) was a study of the relationship of Voiture's *Histoire d'Alcidalis et Zélide* and of *Zelinda,* "an excellent new romance translated from the French of Monsieur de Scudery by T. D., Gent."

Eighteenth Century.—G. Bonno noted a contribution to the intellectual cooperation of France and England in his "Hans Sloane et les relations intellectuelles franco-anglaises au dix-huitième siècle" (*RR,* 40). A. S. Crisafulli studied "Montesquieu's story of the Troglodytes: Its background, meaning and significance" (*PMLA,* 372). "Les lettres de Voltaire des manuscrits Tronchin" (*MLN,* 441), by A. Delattre, gave a brief history of these letters with note of varying editions. In "Notes on the contents of Fréron's periodicals" (*RR,* 116), F. W. Gravit called attention to their value as source material. F. Baldensperger described "L'intermède *populiste* de la littérature française, 1778-1792" (*PMLA,* 674), and D. M. McGhee, the development of the *conte* in "The *conte philosophique* bridging a century" (*PMLA,* 438). B. Sutherland described the *succès de scandale* obtained by a French novelist in England in his "Pierre Henri Treyssac de Vergy, *c.*1738-1774" (*MLQ,* 293).

Nineteenth Century.—F. J. Crowley noted the influence of the Marquis upon Balzac in his "Balzac and the Marquis de Custine" (*PMLA,* 790), while L. F. Haines noted a lack of influence of Zola upon Reade in his "Reade, Mill, and Zola: A study of the character and intention of Charles Reade's realistic method" (*SP,* 463). M. Gilman wrote *Beaudelaire, the Critic* (CU). J. Seznec wrote "Saint Antoine et les monstres. Essai sur les sources et la signification du fantastique de Flaubert" (*PMLA,* 195), and J. Shields, in "Three elegies" (*SP,* 576), compared Lamartine's *Le lac,* Hugo's *Tristesse d'Olympio,* and Musset's *Souvenir.*

Twentieth Century.—Three studies published on Marcel Proust were: D. Adelson's "Proust's earlier and later styles: A textual comparison" (*RR,* 127); D. W. Alden's "Origins of the unconscious and subconscious in Proust" (*MLQ,* 343); and T. W. Bussom's "Marcel Proust and painting" (*RR,* 54). C. B. Cooper published *Women Poets of The Twentieth Century in France* (CU). B. R. Lang studied Nietzsche's influence upon Gide in "André Gide et Nietzsche: Etude chronologique" (*RR,* 139). W. Naumann's "Anmerkungen zur Dichtung von Léon-Paul Fargue" (*PMLA,* 289) was a critical study of that poet.

ITALIAN LITERATURE

Renaissance.—In "The Renaissance problem again" (*Ital,* 65), M. de Filippis considered "in what sense the Renaissance began in Italy with Petrarch and ended with Torquato Tasso." Other Renaissance studies were: D. C. Boughner's "The braggart in Italian Renaissance comedy" (*PMLA,* 42), showing how a conventional type was fashioned into an instrument of contemporary satire; E. Goggio's "Dramatic theories in the Prologues to the *Commedie erudite* of the sixteenth century" (*PMLA,* 322), a study of 122 Prologues as a supplement to the dramatic criticism of the Renaissance; V. Hall, Jr.'s "*Decorum* in Italian Renaissance literary criticism" (*MLQ,* 177), with its conclusion that "*decorum* as a critical term must be understood largely in a social sense," buttressing the hierarchy of the society of the time; and A. D. Menut's "Castiglione and the Nicomachean Ethics" (*PMLA,* 309).

Among the year's studies of Dante were H. D. Austin's "Dante's guides in the *Divine Comedy*" (*RR,* 71); D. Vittorini's "La 'Corte del Cielo.' Interpetrazione del canto secondo dell' Inferno" (*Ital,* 57); and E. H. Wilkins' "The Jackson Dante" (*Ital,* 1). Studies of Petrarch included: G. Dempster's "Chaucer's manuscript of Petrarch's version of the Griselda story" (*MP,* 6); M. Françon's "Une imitation du sonnet de Pétrarque: Pace non trovo . . ." (*Ital,* 127); and two studies by E. H. Wilkins—"The coronation of Petrarch" (*S,* 155) and "The fifteenth-century editions of the Italian poems of Petrarch" (*MP,* 225). On Boccaccio, A. Lipari published "The structure and real significance of the *Decameron*" in the *Essays in Honor of Albert Feuillerat* (Yale), while, on Tasso, C. B. Beall's "Francisco de Medrano's imitations from Tasso" (*HR,* 76) noted four such imitations, and G. Grillo published *Poets at the Court of Ferrara: Ariosto, Tasso and Guarini* (Boston, Excelsior).

Other Studies.—In "La questione poliana" (*Ital,* 105), G. Bosano studied Marco Polo. J. G. Fucilla's "Cupid and the bee: Addenda" (*PMLA,* 575) listed Italian imitations and translations of the Theocritus-Anacreon theme. A. H. Lograsso wrote "Poe's Piero Maroncelli" (*PMLA,* 780) with note of "a very precious" contemporary account of the poet, that encountered in Poe's *Literati.*

PORTUGUESE LITERATURE

C. Christie wrote of "African influence in the Brazilian Portuguese language and literature" (*Hisp,* 259);

J. G. Fucilla noted the influence of Vergil on a Portuguese pastoral poet in his "Vergil and Antonio Ferreira" (*SP,* 14); while D. L. Hamilton published a valuable bio-critical study in his "A vida e as obras de José de Anchieta" (*Hisp,* 407).

SPANISH LITERATURE

General.—J. López-Rey studied the "Idea de la imitación barroca" (*HR,* 253), and W. Peiser, "The ethical value of Spanish literature" (*Hisp,* 155). J. Sánchez noted 63 "Nombres que reemplazan a *capítulo* en libros antiguos" (*HR,* 143) and found that many resulted from the influence of Boccaccio.

Early Period.—J. M. Albaladejo noted folksongs from Murcia in his "Variantes y adiciones a *El Cancionero Panocho"* (*Hisp,* 283). D. Donald's "Suetonius in the *Primera Crónica General* through the *Speculum Historiale"* (*HR,* 95) showed the work of Vincent de Beauvais to have served in liaison. J. E. Gillet described an "Egloga hecha por Francisco de Madrid (1495?)" (*HR,* 275), with reproduction of the MS of a transcript made by Manuel Cañete.

Golden Age.—Studies on Tirso included B. B. Ashcom's "The first builder of boats in *El Burlador"* (*HR,* 328); C. Bruerton's "Three notes on *El Burlador de Sevilla"* (*HR,* 162); F. G. Halstead's "The optics of love: Notes on a concept of atomistic philosophy in the theatre of Tirso de Molina" (*PMLA,* 108); R. L. Kennedy's "Studies for the chronology of Tirso's theatre" (*HR,* 17); and W. E. Wilson's "Tirso's *Privar contra su gusto:* A defense of the Duke of Osuna" (*MLQ,* 161).

Lope de Vega was studied in J. Casalduero's "Fuenteovejuna" (*RFH,* 21); "The origin and character of Lope de Vega's *A mis soledades voy . . ."* (*HR,* 304), by W. Fichter and F. Sánchez y Escribano; E. S. Morby's "Some observations on 'tragedia' and 'tragicomedia' in Lope" (*HR,* 185).

Other studies were S. Gilman's "El falso *Quijote.* Versión barroca del *Quijote* de Cervantes" (*RFH,* 148); H. W. Hilborn's "Calderón's *Silvas"* (*PMLA,* 122); two articles by I. A. Leonard—"Montalbán's *El valor perseguido* and the Mexican Inquisition, 1682" (*HR,* 47) and *"Guzmán de Alfarache* in the Lima book trade, 1613" (*HR,* 210); and two articles on Gracián by M. Romera-Navarro—"Un aspecto del estilo en *El Héroe"* (*HR,* 125) and "El claroscuro gracianо" (*HR,* 258).

Eighteenth Century.—In "The place of the novel in eighteenth century Spain" (*Hisp,* 41), R. F. Brown noted the historical importance of prose fiction in that century.

Nineteenth Century.—J. Guillén analyzed Bécquer's ideas on poetry and listed quotations on which he based his analysis in "La poética de Bécquer" (*RHM,* 1). A. H. Krappe found that "The source of Pedro Antonio de Alarcón's *El Extranjero"* (*RR,* 72) was a Yugoslav ballad. J. N. Lincoln published "A note on the indebtedness of Pereda's *La puchera* to Bretón's *La independencia"* (*HR,* 260).

Modern Period.—In his "Primicias estilísticas de Valle-Inclán" (*RHM,* 289), W. L. Fichter studied Valle-Inclán's *Femeninas* and noted its value in any analysis of the author's style.

SPANISH AMERICAN LITERATURE

Poetry.—M. E. Erickson wrote of J. Batres y Montúfar in "A Guatemalan translator of Horace" (*MLQ,* 359). "Zurce que zurce líricos chismes" (*RI,* 207), by C. García Prada, was a noteworthy critical study and anthology of the Colombian poet, Luis C. López. H. R. Hays wrote of "Jorge Carrera Andrade, magician of metaphors" (*BA,* 101), and A. del Río studied "Eugenio Florit" (*RHM,* 205). Two valuable studies of the Mexican poet, Gutiérrez Nájera, were by E. K. Mapes: the prose *Obras inéditas de Gutiérrez Nájera. Crónicas de "Puck"* (N. Y., Hispanic Institute in the U. S.) and "Textos y documentos. Manuel Gutiérrez Nájera. Poesías inéditas recogidas de periódicos de México" (*RHM*, 334). A critical study of a Peruvian poet was "Muerte y resurrección de César Vallejo" (*RI*, 419) by C. Meléndez. A. Torres Rioseco's "Rubén Darío. Tres cartas inéditas" (*RHM*, 106) reproduced letters showing Darío's financial difficulties while in Chile.

Theater.—J. J. Arrom's interesting article on "Representaciones teatrales en Cuba a fines del siglo XVIII" (*HR*, 64) told of early plays given in Havana after the inauguration of the first theatre in 1776. Another valuable article on the theatre was H. L. Johnson's "Una contrata inédita, dos programas y noticias referentes al teatro en Bogotá entre 1838 y 1840" (*RI*, xiii, 49), with its note of plays and conditions under which they were given.

The Novel.—The outstanding work on the Spanish American novel was A. Torres Rioseco's *Grandes novelistas de la América Hispana: Los novelistas de la ciudad* (Calif). M. Arce concluded her study of "Mariano Latorre, novelista chileno contemporáneo" (*RI*, 103 and 303). M. E. Erickson covered both prose and poetry in the critical study, "Escritores modernistas de Guatemala. Carlos Wyld Ospina" (*RI*, 479). O. H. Green contributed two studies of Manuel Gálvez' *El diario de Gabriel Quiroga*, as a necessary background for understanding later works of that author (*HR*, 221 and 314). R. L. Grismer and J. T. Flanagan wrote of "The cult of violence in Latin American short fiction" (*Hisp*, 161). E. R. Moore described the literary work of the Mexican "Rafael Muñoz" (*MLF*, 11); W. T. Phillips told of "Chilean customs in Blest Gana's novels" (*Hisp*, 397); and R. Stanton, of "Martín Luis Guzmán's place in modern Mexican literature" (*Hisp*, 136). Two extremely valuable anthologies published in the series of the *Clásicos americanos* were: Horacio Quiroga's *Los mejores cuentos* (J. Crow, ed.) and *Flor de leyendas*, of Ricardo Palma, edited by C. García Prada and G. Umphrey.

Other Studies.—M. Cadilla de Martínez' "Más juegos tradicionales de Puerto Rico" (*RHM*, 116); T. Campbell's "'Satanás Diablo Demonio Lucifer,' hero of *Los Pastores*" (*Hisp*, 387); M. P. González' "Trends in Hispanic American literature" (*BA*, 16) and "Roberto F. Giusti y la crítica argentina" (*RHM*, 320); A. Iduarte's study of "Martí" (*RHM*, 193); L. Monguió's "Sobre la caracterización del modernismo" (*RI*, xiii, 69); W. Peiser's "El barroco en la literatura mexicana" (*RI*, 77); and the excellent study by H. Kurz on "Constancio Vigil, writer of children's stories" (*Hisp*, 295).

COMPARATIVE LITERATURE

French.—Literary "borrowings" were noted in J. Hutton's "Michel Guy de Tours: Some sources and literary methods" (*MLN*, 431) and in J. M. Carrière's "Jules Laforgue and Leopardi" (*RR*, 50). C. B. Qualia wrote of "The vogue of decadent French tragedies in Spain—1762-1800" (*PMLA*, 149). W. Carrier compared "Baudelaire y Silva" (*RI*, xiii, 39).

Italian.—A. H. Gilbert noted "A parallel between Milton and Boiardo" (*Ital*, 132); K. McKenzie found "Echoes of Dante in Milton's *Lycidas*" (*Ital*, 121); and J. Murphy noted earliest English translations from Tasso in "Elizabethan lyrics from Tasso" (*MLN*, 375). In "Bruno, Sydney and Spenser" (*SP*, 128), A. M. Pellegrini found a lack of Italian influence on the English writers. J. Rossi studied "The Italian poems of Thomas James Mathias" (*MLQ*, 329) and their historical significance in the field of Anglo-Italian literary relations. H. S. Wilson wrote on "George of Trebizond and early Humanist Rhetoric" (*SP*, 367).

Spanish.—T. C. Izard found in Spain "The principal source for Marlowe's Tamburlaine" (*MLN*, 411). In "Spanish American literature compared with that of the United States" (*Hisp*, 21), G. W. Umphrey noted a tendency of all the American literatures toward cultural freedom from European influence.

LATIN LITERATURE*

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INTRODUCTION

Articles in number continued to appear during 1943, dealing with all phases of Roman life and civilization, and classical scholarship was active in spite of the war. The "Bibliographical Record" that appears, annually, in the *PAPA* is excellent evidence of the wide interests of American classical scholars and the vitality of their work. In the last volume, LXXIII, 17 pages are devoted to lists of items published during 1942, and subjects treated are in the widely-varying fields of ancient literature, philosophy, economics, archaeology, history, politics, religion, magic, folk-lore, and language. It will be quite impossible to give here a complete record of publications, but the following record will seek to give a clear account of essentials and of trends.

THE "BATTLE OF THE CLASSICS"

The "Battle of the Classics" continues, and attention should be called here to some outstanding contributions to the discussion. Under the heading "Bring Back the Liberal Arts," Prof. E. K. Rand, in the *Atlantic Monthly* (June 1943), reviews the historical significance of "liberal arts" in education, studies that, it was thought, would make man free, that train the mind to think and the tongue to speak. Professor Rand considers the factors in American Education that have led to a lowering of all education to a "democratic" level, and he pleads for the uncompromising disciplines that teach the distinctions between right and wrong. He argues for a return to a rigorous training in Greek and Latin. The former president of Smith College, Dr. W. A. Neilson, inquires into the probable and proper status of Latin and Greek in our post-war curricula, and in his article, "The Future of the Humanities" (*Harper's*, March 1943), he pleads for a broader interpretation of the "humanistic" program in education, holding that the program must include contemporary values and must develop a humanistic approach to the sciences. The Humanities are studies concerned with the mind and soul of man and are, as such, in a different category from those studies concerned with external nature, but the Humanities require a new assessment if they are to prevail.

Roscoe Pound, former Dean of the Harvard Law School, writes in behalf of the old classical training in the *Classical Journal* (39, 1-14), calling his defense of the "indispensables" in a democratic education: "The Humanities in an Absolutist World." Prof. Eugene Tavenner, editor of the *Classical Journal* (in *CJ* 38), writes a ringing editorial in behalf of the Classics in which he avails himself of the arguments of a number of American leaders to combat the pernicious theories of the powerful Educational Policies Commission of the National Education Association (*cf.* *CW* 36, 218) and the published views of the office of the Commissioner of Education in Washington.

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* Periodicals are abbreviated as follows: A H R, *American Historical Rev.*; A J A, *American Journal of Archaeology*; A J P, *American Journal of Philology*; C B, *Classical Bulletin*; C J, *Classical Journal*; C O, *Classical Outlook*; C P, *Classical Philology*; C Q, *Classical Quarterly*; C R, *Classical Rev.*; C W, *Classical Weekly*; H S C P, *Harvard Studies in Classical Philology*; H Th R, *Harvard Theological Rev.*; Is., *Isis*; J H I, *Journal of History of Ideas*; J R S, *Journal of Roman Studies*; Lang., *Language*; Ph Q. *Philological Quarterly*; Spec., *Speculum*; P A P A, *Proceedings of the American Philological Association*; T A P A, *Transactions* of the same; Verg., *Vergilius*; Y C S, *Yale Classical Studies* (all references are to 1943).

Bibliographical information will be found in lists of "Recent Publications," appearing in *C W*, and in "Recent Books," listed in *C J*, as well as under "Classical Articles in Non-Classical Periodicals" which *C J* also publishes.

The American Classical League has published an effective pamphlet, "Why Latin and Greek should not be Discontinued in Our Schools," and among those who appear as advocates of classical training are Wendell Willkie, John Kieran, Dorothy Thompson, and Walter Lippmann (Vanderbilt Univ.). Mr. Willkie expresses himself ably in "Freedom and the Liberal Arts" (*The American Scholar* 12, 135-142), a challenge to democracy not to allow the "liberal arts" to perish.

The study of Greek and Latin belongs in the liberal arts program but the real question of their future is the proper place they must assume. In *Harper's Magazine* (June 1943), George A. Lundberg, president of the American Sociological Society, poses the question, "What to do with the Humanities," and expresses himself as opposed to the humanities as a guide in the future, in their old historic role. This dissertation is a real challenge and a call to secure a progressive amelioration of man's place in the world through an education that will scientifically determine the realization of human aspirations. Prof. J. W. D. Skiles's "The Teaching of the Reading of Latin in the Latin Word-Order" in *CJ* (39, 88-104) is more important than the title suggests. It is an able defense of the "functional" method of teaching and reading foreign languages. There are many who believe that the salvation of these studies depends on just this approach.

Closely related to this whole question is the function of translating the Classics in our curricula, and H. C. Montgomery states the situation (*CJ* 39, 25-28), emphasizing the importance of translations of great works in foreign languages, in the liberal arts college as it is constituted today. Classicists have no need to apologize for courses in Greek and Latin literature through the medium of English versions. Montgomery's "Remarks on 'Adaptative Translations of the Classics'" are a resumption of a discussion of Prof. W. H. Alexander that had appeared earlier in the year (*CJ* 38, 337-346).

Prof. William C. Bagley answers the question "Do the Classics Have a Place in Wartime Education?" affirmatively (*CW* 36, 146-149). He refutes the spurious argument that technological studies alone can win either the war or the peace, and he defends the belief that advanced forms of liberal education are to be classed as war essentials. Prof. Karl Lehmann-Hartleben writes on the "United Front of Humanism" (*CW* 36, 172-175), emphasizing that the Classics occupy a key position in any true knowledge of the historical development of western culture, in spite of the lamentable expansion and democratization of higher education, which has not been a development in any real sense but a dilution of educational values. He argues for a united front on the part of teachers of French, English, Spanish, German, History, and of the Classics, in order to create a general, universal conviction that the great book of human culture is of equal value with any other.

ARCHAEOLOGY

In *The American Scholar* (12, 243-247) Miss Gisela M. A. Richter, writes on "Recent Greek and Roman Archaeology," a simple and clear exposition of an important subject by a ranking authority. Professor K. Lehmann-Hartleben writes appreciatively of "Thomas Jefferson, As Archaeologist" (*AJA* 47, 161-163), calling attention to the singular knowledge of the proper approach that Thomas Jefferson had, even in the early days of the Republic. Professor Hartleben's critique is the more valuable, because it is the expression of an outstanding archaeologist.

V. M. Scramuzza suggests that a figure of the historian Livy appears on the marble slab now associated with the *Ara Pietatis Augustae*. This altar was dedicated in A.D. 43 by the Emperor Claudius. Rhys Carpenter had identified three figures as Propertius, Vergil, and Horace, but Scramuzza opposes the Propertius identification and argues for Livy, which would give us, if true, the only representation that we have of the bust of the great historian (*CP* 38, 240-245). Professor Scramuzza is the author of *The Emperor Claudius* (Harvard Univ. Press), which expresses a sound and practical judgment in defense of Claudius against ancient prejudices.

Among works of imposing magnitude, carried on for a term of years, is *The Excavations at Dura-Europos*, vol. IV of which is the final report (Yale Univ. Press). This work is one more monument to the genius of Prof. M. I. Rostovtzeff, with whom A. R. Bellinger and C. B. Welles were associated.

Three articles, apart from their scholarship, have special interest: (1) Howard Comfort's "Terra Sigillata from Minturnae" (*AJA* 47, 313-330), Minturnae being excavated under American auspices; (2) Mrs. I. S. Ryberg's "A Praenestina Cista in the Vassar College Classical Museum" (*AJA* 47, 217-226); (3) S. E. Freeman, *The Excavations of a Roman Temple at Corinth* (Johns Hopkins Univ. Press; see review, *CP* 38, 70-72), the detailed study of a temple of uncertain date and identification.

The late Edith Hall Dohan discusses "An Italiote Krater in the University Museum, Philadelphia" (*AJA* 47, 171-173). M. Rostovtzeff discusses a scene which he calls "The Parthian Shot" (*AJA* 47, 174-187). This dramatic illustration appears upon a drinking cup, now in an American private collection, but which was found in Syria. Professor Rostovtzeff interprets this vivid scene, which recalls Horace's verses on Parthian tactics in battle and which is designated as an example of Augustan art. H. H. Dubs discusses "A Roman Influence upon Chinese Painting" (*CP* 38, 13-19). It is a possibility that some of the 10,000 soldiers of Crassus' legions, captured by the Parthians, constituted the group captured by the Chinese army in 36 B.C. The author regards the existence of Li-jien in western China as evidence that Chen Tang brought Romans into China to a place called "Li-jien," which is the ancient Chinese name for the Roman World.

LITERATURE

The meaning of Livy's "Patavinity"—some vague, literary quality attributed to him by the ancients—has long puzzled scholars, and L. A. MacKay returns to a discussion of the problem (*CP* 38, 44-45). He makes the point that Pollio was, perhaps, comparing Livy's rich style to the thick and fuzzy woolens that were made in Patavium and which were one of its best-known products. Prof. J. Whatmaugh writes "A Last Word on *Patavinitas*" in the same journal (205) and maintains that all that Pollio meant by the famous phrase was a variety of *rusticitas* or a lapse into a native dialect. Further definition of the quality of style, indicated by the word, will probably defy us.

Studies in the drama continue. R. W. Reynolds discusses the question of "Criticism of Individuals in Roman Popular Comedy" (*CQ* 37, 37-45), pointing out that old Attic comedy was outspoken in its criticism of contemporaries while the New Comedy was not. Plautus and Terence were, as is known, under the influence of the New Greek Comedy, but Roman mimes freely indulged in that criticism denied to the orthodox playwrights (*Cf.* L. Robinson, *Freedom of Speech in the Roman Empire*—revs., *JRS* 32, 120-124 by A. Momigliano, and *CR* 57, 49). "Types of Self-Recognition and Self-Reform in Ancient Drama" by R. A. Browne (*AJP* 64, 163-171), develops the thesis that Menander was the inventor of character-studies of the type of one's own character. The case of St. Paul is cited as a classic example of such self-recognition, through "seeing the light," and of consequent moral reformation. J. N. Hough again discusses a problem in Plautus, in an article entitled "The Reverse Comic Foil in Plautus" (*TAPA* 73, 108-118). In the plays of the Roman playwright, it is characters of lower social stations to whom puns, word plays, distortions of meanings, and other forms of verbal humor are assigned, but Dr. Hough investigates the less-well-recognized instances of verbal humor and clever repartee assigned to characters of higher stations and concludes that this technique developed in Plautus' later plays, with increasing dramatic effect. C. H. Buck, Jr., has written a monograph on *A Chronology of the Plays of Plautus* (*AJP* 64, 348-352), giving a useful summary of the growing critical literature of the past 25 years on Plautus.

The Eclogues of Vergil, by Prof. H. J. Rose (Univ. of California Press, 1942) appeared too late to receive a proper notice in the previous issue of THE AMERICAN YEAR BOOK. This valuable book was variously received by students. "Tacitus' Art of Innuendo" by Inez Scott Ryberg (*TAPA* 73, 383-404) calls attention to literary devices in the style of the Roman, which are of great importance in our proper estimate of Tacitus as historian. Mrs. Ryberg claims that Tacitus "as an historian . . . would not suppress or misstate the facts, but as an artist (employing this technique) he could guide the reader's interpretation of them." This is a penetrating study of sub-surface phenomena, a study that advances scholarship.

CW has inaugurated a series of brief essays, illustrated by "Comment and Conjecture on Horace" (*CW* 36, 158-168). In this instance, the individual titles and authors are: "Italian Geography in Horace," N. D. Young; "Horace and a 'Bohemian'," J. P. Pritchard; "Horace on War and Peace," E. H. Haight; "Impressions of the Odes," J. J. Sullivan; "Notes on Horace's Lyric Poetry," W. H. Alexander; "Horace as an Admirer of Plato," C. C. Coulter; "Odes 3.23" (a study of sound-pattern), R. E. Deutsch. Parallel to the group of illuminating discussions is (*CW* 36, 150-154) "Comment and Conjecture on Seneca," a symposium in which R. A. Pack, H. W. Kamp, J. L. Heller, and W. H. Alexander take part. The similar treatment of themes in Homer is quite remarkable. Among the topics discussed are: "Homer's Partiality," R. K. Hack; "Let Greece Do It," Helen Pope; "Homer on Youth," H. N. Couch; "Penelope's Recognition of Odysseus," D. B. Durham (*CW* 36, 206-216). Prof. R. J. Deferrari and his associates at the Catholic University of America have completed *A Concordance of Statius*.

PHILOSOPHY AND RELIGION

"The Gods of Epicurus and the Canon," is the title of Dr. Norman W. De Witt's study appearing in the *Transactions of the Royal Society of Canada* (36, 33-49). Professor De Witt is one of the foremost interpreters of Epicureanism to his generation. In *JHI* (4, 105-111), Professor Moses Hadas presents an article, "From Nationalism to Cosmopolitanism in the Graeco-Roman World," which deserves the attention of all students of social development.

Ernest W. Talbert comes to the defense of Ben Jonson in his article, entitled "The Classical Mythology and the Structure of *Cynthia's Revels*," and this study is an important one in analyzing the *Revels* in the light of interpretations of classic myth as found in contemporary reference works. This procedure shows Jonson, the poet, as poet-moralist, as teacher, as giving moral expositions of the ancient mythology, one who adhered to the Renaissance *credo* that comedy was an instrument of ethical reform (*PQ* 22, 193-210).

"Intimations of Immortality among the Ancient Romans" by Francis A. Sullivan (*CJ* 39, 15-24) touches on a theme of perennial interest, and one that Professor Sullivan has investigated in earlier studies (*cf.* THE AMERICAN YEAR BOOK, 1943 p. 887 and, also his review, in the *CW* 36, 195, of Richard Lattimore's *Themes in Greek and Latin Epitaphs*, published by the Univ. of Illinois Press).

A work of very special significance is the *Feriale Duranum*, prepared by three younger scholars, Drs. R. O. Fink, A. S. Hoey, and Walter F. Snyder. This is the only surviving military festival-list and gives important information on the subject of Roman military worship, as observed by the Roman garrison at Dura-Europos, in the time of Alexander Severus. Oriental elements were excluded and the imperial cult predominated. This work is published in the *Yale Classical Studies* and a review appears in the *CP* (38, 65-66, *cf.*, also, *JRS* 32, 127-129).

"Persius on Epicurus: A Note on *Satires* 3.83-84," J. W. Spaeth, Jr. (*TAPA* 73, 119-122), seems to settle the question, in the affirmative, that Epicurus is here referred to. In the *CP* (38, 137-138), J. E. Fontenrose finds no support (in *Aen.* xii. 161-215) for belief that the Augustan poets considered Apollo as a sun-god, and in the *AJP* (64, 278-285), Professor Fontenrose argues against the hypothesis that Apollo is a sun-god in Vergilian poetry. Prof. W. W. Hyde has an illuminating note on the Emperor Julian in the *CW* (37, 26-27), which all students of Roman religion should read.

Studies in Honor of F. W. Shipley was prepared by his friends and colleagues. The *Shipley Studies* (Washington University Studies, Language and Lit. Series, 14, St. Louis) include a particularly interesting essay on "The Use of Fire in Greek and Roman Love Magic" by Eugene Tavenner and a charming contribution, "Classical 'Ariels'," by Otto Brendel, which is a study of figures in later Roman art that transport deified emperors to the other world. Other chapters in this volume cover a wide variety of subjects.

HISTORY

Attention may be called to *Roman History, Life and Literature* (Macmillan 1942), by G. W. White and E. C. Kennedy, which appeared too late for notice in the previous issue of THE AMERICAN YEAR BOOK. Works of this kind are an answer to an imperative need in American education and life of evaluations of Roman life and thought, for an ever wider and deeper knowledge of the Eternal City from which we have derived such a vast cultural heritage. Professor Rand's *The Building of Eternal Rome* (Harvard Press, 1943) will be read with pleasure by the many who realize the enormous importance of Rome in the world's civilization. This book is primarily concerned with an exposition of those spiritual forces that made Rome appear eternal to the ancient mind and with a study of those ideals that have justified that ancient belief to the modern mind. Scholarship, wit and humor, fancy and speculation are woven into an historical exposition that gives the appearance of contemporary value to ancient observations, because of the great and vital learning of the distinguished author (see Rev., *CP* 38, 263-268).

Karl Barwick's *Caesars Commentarii and das Corpus Caesarianum,* published a few years ago, continues to provoke discussion, as it doubtless will for a long time, because of the startling theory of Professor Barwick that we have two versions to deal with: Caesar's original, annually published commentary and incomplete notes for a revised edition. This discussion affects, in particular, the geographical and the ethnographical excursuses in the *De Bello Gallico,* the authenticity of which, however, is not questioned by most scholars. A competent review of this important book appears in the *AJP* (64, 218), prepared by Prof. T. R. S. Broughton who, in the same journal (219-220) offers a review of another fundamental work of recent years: H. Bloch, *I bolli laterizi e la storia edilizia romana.* This great work provides a critical review of the scholarly study of brick stamps from its beginning in 1602 to the present and analytical discussions of a number of monuments of brick construction of various periods, besides reviewing the history of the workshops and the development of the industry.

"Caesar and the Roman Nobility" is the title of Prof. Lily Ross Taylor's presidential address (*TAPA,* 1-24) and it is concerned, primarily, with a study and analysis of Caesar's political associations and his motives before 60 B. C. Professor Taylor does not hold to the general view that "Caesar connived with Crassus to undermine Pompey's power," and she argues that it was through association with Pompey that Caesar incurred the enmity of a powerful group of conservatives who ultimately proved his own undoing.

"Coastal Defense in the Roman World" is the title of an article by Chester G. Starr, Jr., whose book, entitled *The Roman Imperial Navy* 31 B. C.—A. D. 324, has made him a leading authority on the subject. In the *AJP* (64, 56-70), Professor Starr argues that during the Republic coastal defense was secured, largely, by fortifying the shore-line (which he calls "passive" defense), while during the Empire that defense was chiefly "active" *i. e.*, secured by means of a navy that went out to seek the enemy; this method was maintained till the third century A. D., when, under Diocletian and his successors, there was a return to the earlier system. During the early Empire, a highly developed form of protection was provided by an elaborate system of coastal defenses and this is well illustrated by the *litus Saxonicum*.

Norman J. De Witt returns to problems of Caesar and the *De Bello Gallico* in his "The Non-Political Nature of Caesar's *Commentaries*" and his conclusions are important even for the layman, *viz.* that probably the *Commentaries* were not, as has been so widely assumed since Mommsen's day, written late in 52 B.C. and were not designed as propaganda to advance Caesar's political interests (*TAPA* 73, 341-352).

Miss Dorothy M. Robathan again establishes her claim to intimate knowledge of Roman topography in an article, entitled "Domitian's 'Midas-touch'." This paper is of first importance in establishing the truth of Domitian's extravagance (*TAPA* 73, 130-144). Prof. Kurt von Fritz analyzes "Pompey's Policy before and after the Outbreak of the Civil War of 49 B. C." (*TAPA* 73, 145-180). Julius Caesar does not come off well in this survey of politics in Rome.

FINALIA

"An Edict of the Emperor Justinian II," appearing in *Speculum* (18, 1-13), tells us of the gratitude of the Emperor for the miraculous help of St. Demetrius in the emperor's campaigns and his consequent grant of favors to the martyr's church in Thessalonica. A. Vasiliev gives a reinterpretation of the meaning of this gift of a *salina,* a government saltstore.

The importance of papyri for classical scholarship requires no elaboration, but it is well to call attention to the *Herculanean Papyri* (*AJP* 64, 148-162, "Papyrus Herculanensis 831," by Robert Philippson), the *Zenon Papyri* (*AJP* 64, 211-217, a review by Youtie of the work of Westermann, Keyes, etc.), the Oxyrhynchus Papyri, published in London, as well as the papyri at the University of Michigan and at New York University, which are receiving critical examination and publication (*e.g.,* Youtie, Sanders, Winter, Kraemer). Prof. H. A. Sanders publishes "Three Theological Fragments" in the *HThR* (36, 165-167); these are fragmentary papyri in the Michigan collection, Christian in character, of the third (?) and fourth centuries A. D.

H. R. Upson writes on "Mediaeval Lives of Virgil" in the *CP* (38, 103-111). Prof. John J. H. Savage has a note on "Mediaeval Echoes of Catullus," in *CW* (37, 40-41). Other outstanding works of the year are: V. Gordon Childe, *Prehistoric Communities of the British Isles* (review, *JRS* 32, 140-142); G. E. F. Chilver, *Cisalpine Gaul, Social and Economic History,* 49 B. C. to Trajan (review, *JRS* 32, 135-138); A. B. Cook, *Zeus,* vol. III (reviews, *CP* 38, 51-56, *CJ* 38, 367-370, and *AJP* 64, 341-348); B. Farrington, *Science and Politics in the Ancient World* (see review *CJ* 38, 481-482); S. R. K. Glanville, *The Legacy of Egypt* (reviews, *CR* 57, 40-42, *AJA* 47, 249-252); D. M. Robinson, *Excavations at Olynthus,* vol. xi (for review of this monumental work, see *CP* 38, 220-221, and, especially, *CW* 37, 64-66 for the high praise of A. D. Nock); R. S. Rogers, *Studies in the Reign of Tiberius* (Johns Hopkins Univ. Press, 1943); V. M. Scramuzza, *The Emperor Claudius* (review, *CJ* 39, 119-121, and *AHR* 48, 544-546, *JRS* 32, 125-127); E. H. Sturtevant, *The Pronunciation of Greek and Latin* (review, *AJP* 64, 192 and *CJ* 38, 236-237).

GREEK LITERATURE

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GENERAL

The entire field of Greek studies is showing increasingly the impact of the war. Classical scholarship abroad is almost entirely in abeyance for the duration, and consequently the stimulation of foreign research materials is lacking. Furthermore, in addition to extra-curricular demands, classical scholars have been largely drafted to teach the sciences and other subjects required in the Army and Navy programs which began with July. The publication of significant books, especially, has slackened, and, though no American classical journal has suspended, the quality of the articles suggests that editors are not enjoying an economy of abundance.*

LOEB CLASSICAL LIBRARY

The flow of translations from this famous spring is drying up, awaiting a less arid season. Since the last report in THE AMERICAN YEAR BOOK, two volumes have appeared: *Josephus* (vol. 7), by R. Marcus; and *Dionysius of Halicarnassus, The Roman Antiquities* (vol. 4), by E. Cary.

LITERATURE AND LITERARY CRITICISM

In "Comment and Conjecture on Homer" (*CW* 36, 206), R. K. Hack takes issue with Bassett, declaring that no act of folly goes uncriticized in Homer and that the poet does not condone the failings of his hero Achilles; H. N. Couch traces the attitude of Homer toward youth and age, finding him enthusiastic about the beauty and martial prowess of youth, but when youth and maturity are brought into contrast Homer consistently favors the older man, showing his sympathy with the Greek ideal of moderation, the fruit of age; D. B. Durham reconsiders the enigmatic recognition scene and tries to make plausible the slow and almost reluctant acceptance of Odysseus by Penelope; other contributors to this symposium find sarcasm and humor in Homer; and Ithaca is again identified as Odysseus' island home.

E. G. O'Neill (*YCS*, vol. 8) has classified and studied, according to metrical type and position in the line, some 50,000 words in the hexameter of Homer, Hesiod, and the Alexandrians, and attempts to analyze the verse in terms of these elements of inner metric. In "The Artistry of the First Pythian Ode" (*CJ* 38, 401), R. V. Schroder shows how Pindar, when faced with the commission of making "an eternal event out of a client's career," performed such a task at the height of his poetic achievement.

A. M. G. Little, in *Myth and Society in Attic Drama* (Columbia Univ. Press, 1942), develops the thesis

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* Abbreviations: *AJA*, *American Journal of Archaeology; AJP*, *American Journal of Philology; CJ*, *Classical Journal; CP*, *Classical Philology; CW*, *Classical Weekly; HSCP*, *Harvard Studies in Classical Philology; Hes.*, *Hesperia; JHI*, *Journal of the History of Ideas; MLQ*, *Modern Language Quarterly; PMLA*, *Publications of the Modern Language Assn.; TAPA*, *Transactions of the American Philological Assn.; YCS*, *Yale Classical Studies.* Titles of books, monographs, and periodicals are italicized; those of articles are in quotation marks. For economy of space initials are used for Christian names and abbreviations are universally employed where confusion will not result; in citing the pages for articles the first page only is given.

that not only was social history the basis and subject of Greek drama, but that the poets intended their plays to be sociological documents (*cf.* review by G. Norwood, *CP* 38, 271). "The Technique of the Portrayal of Joy in Greek Tragedy," by F. L. Shisler (*TAPA* 73, 277), a segment of a more elaborate study in dramatic technique, explains under the headings of language, rhythm, and stage business how the Greeks surmounted the obstacles of tragic mask and tragic tone in the expression of joy. In a study of influence and survival, H. C. Montgomery ("Some Later Uses of the Greek Tragic Chorus," *CJ* 38, 148) traces various attempts to revive the musical element of the Greek play, which gave birth to the opera during the Renaissance, while Wagner accords to the orchestra a function parallel to that of the chorus.

"Comment and Conjecture on Tragedy" (*CW* 36, 254) contains a farrago of opinion: H. T. Westbrook insists upon an understanding of the differences between ancient and modern tragedy as an antidote to a too enthusiastically modern emphasis on its universality, with a corresponding neglect of its very Greek individuality; H. G. Robertson notes instances in Sophocles where the *deus ex machina* technique utilizes a human character rather than a god: Odysseus in the *Ajax,* Teiresias in the *Antigone,* Orestes in the *Electra,* etc.; H. N. Couch evokes the years of tremendous philosophical upheaval intervening between the *Oedipus Tyrannus* and the *Coloneus* to explain Sophocles' changed attitude—in the *Tyrannus* the king seeks no pardon, in the *Coloneus* he argues passionately for forgiveness for his unwitting conduct; and T. J. M. Burke applies Yeats' dictum, "Tragedy swamps character," to ancient drama and its modern successor, illustrating the emphasis on the individual in comedy and the stress on the universal in tragedy. Miss G. H. Macurdy continues her comments in the realm of tragedy in "The Dawn Songs in the *Rhesus* (527-556) and in the Parodos of the *Phaethon*" (*AJP* 64, 408), pointing out their heretofore not fully recognized similarities, and argues that the two plays were composed by the same poet, Euripides. R. A. Browne (*AJP* 64, 163) discusses the chief examples in ancient drama where the theme of self-revelation and self-reform is used as a recipe for plot construction. Four other items should be recorded here: G. M. Kirkwood, "Two Structural Features of Sophocles' *Electra*" (*TAPA* 73, 86); N. T. Pratt, "The Euripidean *Medea* 38-43" (*CP* 38, 33); L. B. Lawler, "Four Dancers in the *Birds* of Aristophanes" (*TAPA* 73, 58); and W. E. Blake, "The Aristophanic Bird Chorus—A Riddle" (*AJP* 64, 85).

H. S. Scribner, in some brief comments on "Law in Greek Lyric" (*CW* 37, 41), illustrates how the delicacy and precision of the laws, which have governed the growth of the Greek language, spring from qualities inherent in the character of the Greek people and produce in the various types of the lyric a form perfectly adapted to represent the stages of their political and social development. F. D. Copley, in a paper entitled "On the Origin of Certain Features of the Paraclausithyron" (*TAPA,* 73, 96), traces four features of this lovelorn lament back to an origin in the kōmos. In three essays (*AJP* 64, 1; 427, and *HSCP* 53, 121), S. Wilcox reexamines the ancient accounts and some modern theories on the rise, development, and scope of Greek rhetorical instruction. Through a review of Stoessl's *Apollonios Rhodios* (*AJP* 64, 467), H. Fränkel makes some sensible observations on the potentialities and limitations of Quellenforschung together with strictures upon Stoessl's imaginative interpretations of the *Argonautica,* J. Duffy, in "The Historical Development of Ancient Literature" (*CJ* 38, 193), points to the facts of Greek literary history as showing that there were no fixed patterns or traditional forms which the ancient artist was forced to follow; on the contrary, he freely improved old forms and created new.

INSCRIPTIONS AND PAPYRI

One of the most valuable documents bearing upon the cultural history of classical Athens is that which records the victors in the lyric and dramatic contests at the City Dionysia. A new and not unimportant fragment of this document, found on the north slope of the Areopagus, leads E. Capps (*Hes.* xii, no. 1, 1) to reaffirm his dating of the introduction of comedy into the City Dionysia as of 487/6. J. O. A. Larsen gives a full reconstruction of one of the most important of all Lycian inscriptions, *Tituli Asiae Minoris,* II, 508,—one which supplies the link between the Lycian constitution and the institutions of the imperial period and throws considerable light on Lycian civilization in general (*CP* 38, 177; 246). S. Dow continues from 1942 (cf. THE AMERICAN YEAR BOOK 1942, 893) his studies of the Athenian tribute lists (*CP* 38, 20), especially the last two of the 14 lists not securely placed and dated; some of Dow's conclusions are questioned in a later article by B. D. Meritt (*CP* 38, 223). In notes on Corinth (*HSCP*), S. Dow emphasizes the need of a careful reconsideration of the matter of public inscriptions in Corinth from 480-146 B.C.; the people were largely illiterate and a mercantile and oligarchic ruling class did not wish to publish its decrees only to court defacement by those who could read; so the inscriptions are few.

In a long article (*Hes.* xii, 12), A. E. Raubitscheck suggests, on the basis of new finds or further investigation, fresh interpretations of the following: the Athena Promachos; the Aphrodite of Kalamis; the epigram on the Athenians who fell at Potidaea; the casualty list of the Sicilian Expedition; and the funeral monument which was the material equivalent of the funeral oration of Pericles. A new Arcadian inscription, important for that dialect as well as for Greek civilization, is published by D. M. Robinson (*CP* 38, 191).

The papyri and ostraca in the various university collections throughout the United States are gradually being deciphered and edited. The third volume of the papyri in the Princeton collection (Princeton Univ. Press, 1942) has been announced under the editorship of A. C. Johnson and S. P. Goodrich; and H. C. Youtie supplements his work on the ostraca in the Michigan collection (*cf.* THE AMERICAN YEAR BOOK 1942, 893) with an article, "Parerga Ostracologica" (*TAPA* 73, 64), in which he suggests text revisions and adds commentaries on the Greek ostraca at Ann Arbor.

HISTORY AND CIVILIZATION

K. von Fritz, in "Once More the Hektemoroi" (*AJP* 64, 24), subjects to examination the matter of agrarian legislation in the time of Solon with respect to the rent paid by peasants and their relations with their creditors. According to L. Solmsen ("Speeches in Herodotus' Account of the Ionic Revolt," *AJP* 64, 194), Herodotus uses the literary device of the speech as a measure of interpretation and judgment; hence the speech occurs more frequently in books vii-ix than in the earlier books, where the strangeness of materials precluded judgments on Herodotus' part. "The Administration of Justice in the Delphic Amphictyony" (*CP* 38, 1), by R. J. Bonner and G. Smith, investigates the scope and method of jurisdiction on the part of this famous council and lists the types of cases with which it dealt. F. R. Kramer, in "The Implications of the Delian Confederacy for 'Union Now' Movements" (*CJ,* 38, 391), argues that the American Federation pattern, beloved by Streit, is not suitable for world organization after the war; he holds that the Delian type provides a more basic approach, granted the similarities of the ancient members of the one and the modern nations which would form the other, and points out from ancient precedent the goals to be sought and the pitfalls to be avoided if any post-war federation is to endure.

Alexander's deification is the subject of an article by C. A. Robinson (*AJP* 64, 286), in which he declares that Alexander's visit to the oracle of Ammon was purely political, and that he deliberately planned to be deified at Bactra; the motive of the deification he explains more clearly on the basis of Justin's account of the mutiny at Opis. In a long and thoughtful review of Rostovtzeff's *Social and Economic History of the Hellenistic World,* N. Lewis takes issue with the former on the cause of the decline of the Hellenistic world; Lewis stresses its faulty, untenable social and economic structure as responsible for the devastating political and rival wars (*CW* 36, 187).

C. H. V. Sutherland, in "Corn and Coin: A Note on Greek Commercial Monopolies" (*AJP* 64, 129), underscores his conclusion that state control of coinage went hand in hand with constant efforts to establish state monopoly of the corn supply. Through a detailed examination of the known data, J. A. Notopoulos attempts to lay the foundation for a more precise chronology of Athens in the Roman period by demonstrating that Ferguson's law for the tribal rotation of the prytany-secretaryship still held under the Empire (*AJP* 64, 44). A. R. Bellinger has assembled, in "Hyspaosines of Charax" (*YCS,* vol. 8), the obscure bits of information about a shadowy king of the second century B. C., a ruler at the head of the Persian Gulf, who was once ambitious to consolidate Greek and native elements and thus establish a new Babylonia.

A sound study in historiography is L. Pearson's *The Local Historians of Attica* (*Philological Monographs,* no. 11, Amer. Philological Assn., Philadelphia, 1942), in which he examines and discredits a belief in the Atthis tradition, *i.e.,* that local historians collectively established and perpetuated certain views about Athenian history which came to be accepted as traditional. S. Dow and A. H. Travis, in "Demetrios of Phaleron and his Lawgiving" (*Hes.* xii, 144), write about the most accomplished philosopher in all antiquity to rule a Greek state, who with the title of nomothetes promulgated a code in which Theophrastus collaborated.

Other items under this head worthy of report are: W. K. Pritchett, *The Five Attic Tribes after Kleisthenes* (John Hopkins Univ. Press, 1943); W. L. Westermann, "Slavery and the Elements of Freedom in Ancient Greece" (*Quarterly Bulletin of the Polish Institute in America,* Jan. 1943, 1); M. Hadas, "From Nationalism to Cosmopolitanism in the Greco-Roman World" (*JHI* iv, 59); G. Smith, "Polis Andra Didaskei" (*CJ* 38, 260), showing how the Greek city, consciously or unconsciously, afforded opportunity for the intellectual, artistic, and spiritual education of its citizens; and H. Cairns, "Plato's Theory of Law" (*Harvard Law Review* 56, 359).

ART AND ARCHAEOLOGY

The publication of ancient Greek sites has perforce slowed down during the year under review. The archaeologists have in many cases exhausted such materials as were complete enough to justify publication. Extensive records of excavations, catalogues of finds, notes on structural details, drawings, plans, photographs, and countless other data are inaccessible and will remain so until after the war. What has appeared consists either of studies which were nearing completion when the storm broke, or of those whose frankly tentative conclusions await further data.

THE PARTHENON

The curves of the Parthenon, which have been a source of so much wonder and admiration to modern architects, receive distinguished attention from the former director of the School in Athens, G. P. Stevens; in an article entitled "The Curve of the North Stylobate of the Parthenon"

(*Hes.* xii, 134), he argues with convincing detail that the curve was a parabola, not the arc of a circle of great radius. O. Broneer examines Dinsmoor's *Observations on the Hephaisteion* (*cf.* THE AMERICAN YEAR BOOK 1942, 894) in a review which forms a valuable addendum to Dinsmoor's great work, and R. Carpenter, also, contributes (*CW* 37, 58) an expository summary of the same book for the general reader—"a monograph which will remain a source comparable to the temple itself for all subsequent study and discussion." G. Karo, formerly of the German Archaeological Institute in Athens, has published a well-illustrated, scholarly monograph (*An Attic Cemetery,* Oberlaender Trust, Philadelphia, 1943), which presents a resumé of the excavations in the famous Kerameikos made possible through the generosity of the German-American manufacturer, Gustav Oberländer, a latter-day Schliemann.

COURT OF PYTHION AND OLYMPIA

One of the somewhat tentative articles written under the difficulties mentioned above is "Klepsydra and the Paved Court of the Pythion" by A. W. Parsons (*Hes.* xii, 191); the author traces this well and court from neolithic times down to the nineteenth century, accompanying the discussion with photographs and seven plans, which portray their various phases. In "News Items from Athens" (*AJA* 46, 477), E. P. Blegen reports mainly on the German finds at Olympia during the winter of 1938-39, among which especially noteworthy are pieces of a terracotta akroterion which fit a head of Zeus, represented as himself carrying off Ganymedes (date 470 B.C.)—"the first time that an almost complete work of a Greek artist in clay on a large scale has been recovered."

CORINTH

In 1896 the American School of Classical Studies in Athens began the excavation of the site of Old Corinth and in the intervening years has made highly commendable progress. Scholarly accounts of the finds have appeared promptly. Among such are the three following: a competent monograph, with 226 illustrations and 63 plates, many in color, is that by C. H. Morgan II, *Corinth* (vol. xi), *The Byzantine Pottery* (Harvard Univ. Press, 1942), which discusses all finds since 1896 (except those from the theater), and clarifies the understanding of the ancient craft by comparison with the modern potter's art as practiced at Amarousi; S. S. Weinberg, in *Corinth* (vol. vii, Part 1), *The Geometric and Orientalizing Pottery* (Harvard Univ. Press, 1943), presents a very impressive mass of evidence for the ceramic history of Corinth, much of it appearing for the first time, with some 379 photographs of pottery fragments, and numerous drawings of pottery profiles; and another Corinthian monument, the Christian basilica near the Cenchrean Gate, was published during the year by J. M. Shelley (*Hes.* xii, 166); it is a three-aisled basilica of conventional Hellenistic type; Shelley traces its vicissitudes through the 13th century.

PYLOS AND OTHERS

The situation of Nestor's Pylos, reopened by the interesting archaeological discoveries of the spring of 1939, is discussed by W. A. McDonald in an article (*AJA* 46, 538) entitled: "Where did Nestor Live?" McDonald, admitting that the new evidence is not complete, offers some suggestive preliminary remarks which seem to weaken Dörpfeld's arguments for the northern (Triphylian) Pylos. Regarding the Olynthus dig, G. E. Mylonas, in "Excavations at Mecyberna" (*AJA* 47, 78), reports that the grouping of buildings as well as the details differ from those in the mother city of Olynthus although the portable objects are the same in port and mother city. On this same site A. D. Nock's review of Robinson's *Excavations at Olynthus* (*CW* 37, 64) will repay the reading.

A noteworthy contribution to the important field of Hittite history has been made by J. Garstang in "Hittite Military Roads in Asia Minor" (*AJA* 47, 35). Garstang includes a large map giving his conception of the Hittite world about 1300 B.C. and traces some of the vital lifelines of the Hittite imperial scheme.

Miss G. M. A. Richter, the distinguished curator of the classical collections at the Metropolitan Museum, has summarized the recent excavations and discoveries in Greece and Italy in a popular article, "Recent Greek and Roman Archaeology" (*The American Scholar* xii, 186). From the same hand is a brilliant monograph, *Kouroi* (Oxford Univ. Press, 1942), a study of the development of the so-called Apollos: "it took the Greeks only a century to master the rendering of the anatomical structure, a feat that the Egyptians did not achieve in more than 2,000 years."

PHILOSOPHY

The year saw fewer contributions in the field of technical philosophy, and the scope in general was horizontal rather than vertical. E. L. Minar offers a study on *Early Pythagorean Politics* (*Connecticut College Monographs,* no. 2, Waverly Press, Baltimore, 1942), in which he traces the development and indicates the main features of Pythagorean political theory and the highly important relationship between this theory and the more strictly philosophical doctrines of the school. In "Three Notes on the Funeral Oration of Pericles" (*AJP* 64, 399), L. Pearson has thrown new light on several cruces of this very timely outline of the Athenian way of life masquerading as a funeral oration.

Platonic studies have Plato as a foil rather than as a primary interest. H. Kuhn continues from last year (*cf.* THE AMERICAN YEAR BOOK 1942, 895) his consideration of the relationship between Greek tragedy and Plato (*HSCP* 53, 37), following "true" tragedy through its orbit from pre-Socratic tragedy, where man is the pawn of nature, to Plato's *Republic,* where the problem is in the human mind. J. A. Notopoulos investigates the Platonic sources of Shelley's *Hymn of Intellectual Beauty* (*PMLA* 58, 582). A. Koyré, in "Galileo and Plato" (*JHI* iv, 400), makes Galileo a partisan of Platonic epistemology owing to his attitude toward the rôle and nature of mathematics in the field of physics.

G. Boas finds "A Basic Conflict in Aristotle's Philosophy" (*AJP* 64, 173), which he charges to his acceptance and peculiar elaboration of the Platonic theory of ideas. "Aristotle on Velocity in the Void" (*AJP* 64, 432), by J. Katz, maintains that Aristotle always knew the truth on this head and never rejected it.

W. A. Heidel's thesis in "Hecataeus and Xenophanes" (*AJP* 64, 257) is that "Hecataeus was a reformer and sought by indirection to undermine current conceptions of the gods; Xenophanes, a rationalist, attacked them with indignation." F. Solmsen summarizes the concordance and divergence of ideas of the third century polymath and Plato, in "Eratosthenes as Platonist and Poet" (*TAPA* 73, 192). Plotinus in the *Enneades,* according to H. E. Barnes (*TAPA* 73, 358), considers that in katharsis man's soul is not only freed from pollution, but is itself internally affected by the purification.

Greek Foundations of Traditional Logic, by E. Kapp (*Columbia Univ. Studies in Philosophy,* no. 5, 1942), consists of five lectures, semi-popular, which differentiate with respect to four main topics—concepts, judgments, syllogisms, and induction—the ancient and modern logical systems. Other significant titles under this head are: K. von Fritz, "Noos and Noein in the Homeric Poems" (*CP* 38, 79); F. W. Lenz, "Ethos Deutere Physis" (*TAPA* 73, 214); *Philosophical Essays in Honor of E. A. Singer,* ed. by F. P. Clarke and M. C. Nahm (Univ. Penn. Press, 1942), contains several essays in the ancient field; P. DeLacy, "The Logical Structure of the Ethics of Epictetus" (*CP* 38, 112); W. M. Satler, "Socratic Dialectic and Modern Group Discussion" (*Quarterly Journal of Speech* 29, 152).

RELIGION

E. Tavenner in a review of Nilsson, *Geschichte der griechischen Religion* (*CJ* 39, 33), emphasizes the importance of Nilsson's devoting his work to the point of view of cult as practiced by the average man and in paying comparatively less attention to mythology. "Comment and Conjecture on Ancient Religion" (*CW* 36, 111) comprises items by various contributors: religion and the quest for security; the survival of the tree and plant cult in the magic power of certain plants; notes on the Eleusinian festivals. In "The Sapphic Ostracon" (*TAPA* 73, 308), A. Turyn presents a revised text of Sappho's poem and finds Orphic eschatology in the description of the holy place. A. S. Pease, in "Some Aspects of Invisibility" (*HSCP* 53, 1), discusses *inter alia* the Greek and Roman beliefs in regard to invisibility of men or gods, with parallels drawn from the New Testament. The relation of a modern religious philosophy to an ancient philosophy is considered by V. L. Dodwell in *Aristotle and Anglican Religious Thought* (Cornell Univ. Press, 1942).

THE HUMANITIES

Considerable space has been devoted—a larger proportion in the general journals than in the classical periodicals—to the rôle of the humanities after the war. The cloud of witnesses in their favor has increased as the conflict has prompted a self-examination as to the cause of the failure of our civilization. The world seems highly resolved that hereafter technology, natural science, and social science must not be permitted to go their way alone, but must be the handmaidens of the human spirit. One such plea out of many is that of K. Lehmann-Hartleben, "United Front of Humanism" (*CW* 36, 172), who calls for a broad conception of humanism which will show it a part in all its manifold aspects of our western heritage: "the classics more than any other field can make man conscious of the complexity of culture which is at the mercy of his actions." The publishers are likewise showing their faith in the classics in a practical way by offering books of selections for classes in Greek and Latin literature in translation. The latest volume announced is W. J. Oates and C. T. Murphy, *Greek Literature in Translation* (Longmans, 1943).

MISCELLANEOUS

Great interest has been aroused in the techniques developed for teaching languages speedily and the applicability of these methods to post-war instruction. Typical of this interest is an article by E. H. Sturtevant, "The Scholar in Wartime" (the *Bulletin of Amer. Assn. of Univ. Professors* 28, 605).

H. Gomperz discusses the Greek scientists of the early sixth century: their problems, their methods of research and explanation (*JHI* iv, 161). "Greek" mathematics, according to O. Neugebaur (*AJP* 64, 452), is to a large extent a product of the Hellenistic world as a result of the continuous interaction between Oriental and Mediterranean cultures. A work of clear exposition on Egyptian chronology, accompanied by four charts of graphic representation, is the article by W. F. Snyder, "When Was the Alexandrian Calendar Established?" (*AJP* 64, 385).

Critics are still studying the relationship of Joyce's *Ulysses* to the *Odyssey* of Homer (*cf.* J. Prescott, *MLQ* 3, 391). D. M. Robinson, in a review of Trevelyan's *Goethe and the Greeks* (*CW* 36, 76), adds much of fact and timely parallel to this outstanding volume on the Hellenism of the greatest modern German Grecophile.

The many different uses, other than cult, to which the ancient temple was put always surprise the uninformed:

as temporary lodgings or bedrooms; political headquarters; dining halls; public treasuries; safe deposit vaults; senate meeting place; guild room for poets, etc. These varying functions are catalogued and discussed by W. D. Gray, in "The Rôle Played by the Classical Temple in Secular Life" (*CJ* 38, 324). Somewhat along the same line is W. H. McDonald's study of *The Political Meeting Places of the Greeks* (Johns Hopkins Univ. Press, 1943), which considers the facts from Minoan times to the second century A. D.; testimonia in literary, epigraphical, and architectural sources are carefully recorded.

In "New Doctoral Dissertations" (*CW* 36, 141) are given the titles of doctoral dissertations accepted during 1941-42 in classical studies. These studies stand twentieth in order. Plato is again the favorite author, and topics in literary history, exegesis, criticism, and classical influences predominate.

SEMITIC LANGUAGES AND LITERATURES

By Arthur Jeffery
Professor, Columbia University

GENERAL*

The new volume on the Tell Beit Mirsim excavations by W. F. Albright has been issued by the American Schools of Oriental Research as a combined volume XXI-XXII of their *Annual,* completing the publication of that expedition until further digging has been done. This volume is *Tell Beit Mirsim III: the Iron Age* and, besides the work of Dr. Albright, contains chapters by J. L. Kelso and J. P. Thorley. The survey in C. C. McCown's *Ladder of Progress in Palestine* covers recent work from all periods from the Stone Age to the Byzantine period, and is full of information germane to Semitic studies.

The narrower subject of the possible light that may be shed on the problem of the origin of the alphabet by the fragmentary inscriptions found in recent years in Palestine, is the subject of an essay (*JAOS* LXIII, 24-30) by D. Diringer, and is illustrated by copies of some of the more important inscriptions. Another attempt at utilizing a particular form of material from the excavations for wider comparisons is in J. B. Pritchard's monograph *Palestinian Figurines in Relation to Certain Goddesses known Through Literature,* published as vol. XXIV of the American Oriental Series, and which seeks to relate the numerous figurines of the primitive fertility goddess which have turned up in excavations with the literary references to Astarte, Anat, Ashera, etc.

S. J. Feigin's *Missitre Ha'avar* (in Hebrew) is a collection of studies attempting to elucidate a number of points in Biblical and Semitic history. Perhaps mention ought also to be made of A. E. Bailey's book, *Daily Life in Bible Times,* which utilizes recent material in an endeavour to make clear how people actually lived in the ancient Semitic East. An article of unusual interest to Semitists, though actually pre-Semitic, is S. N. Kraemer's account (*BASOR* No. 81) of the earliest literary catalogue known to exist, a Sumerian list of literary compositions compiled about 2000 B.C.

UGARITIC

The outstanding contribution is the publication of C. H. Gordon's *The Loves and Wars of Baal and Anat and other Poems from Ugarit,* in the

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* *BASOR* = Bulletin of the American Schools of Oriental Research. *JAOS* = Journal of the American Oriental Society. *JBL* = Journal of Biblical Literature. *HUCA* = Hebrew Union College Annual. *JNES* = Journal of Near Eastern Studies. *JQR* = Jewish Quarterly Review.

Princeton Oriental Texts which contains an annotated translation of the Ugaritic poems of "The Birth of Dawn and Dusk," "The Loves and Wars of Baal and Anat," "The Nuptials of Nikal and the Moon," "King Krt and Princess Hry," and "The Saga of Aqhat, son of Daniel." Some further interpretations of Ugaritic material are given by Albright in an article "The Furniture of El in Canaanite Mythology" (*BASOR* No. 91), and by H. L. Ginsberg (*JBL* LXII, 109-115), where suggestions are made for the utilization of Ugaritic material for the textual criticism of the Hebrew Scriptures.

ASSYRIOLOGY

A. Poebel concludes his examination of the Khorsabad Assyrian King-List in the January number of *JNES*, so that this important text is now fully available to students. Another group of tablets from the James B. Nies Collection at Yale, being the seventh volume in the series, has been published by J. B. Alexander under the title *Early Babylonian Letters and Economic Texts.* Also two new volumes from the Nuzi material have appeared, *Nuzi Personal Names*, by I. Gelb, P. M. Purves, and A. A. MacRae as vol. LVII of the Oriental Institute Publications, and *Nuzi Real Estate Transactions* by Francis R. Steele, as vol. XXV of the *Transactions* of the American Oriental Society.

In an article "Primitive Democracy in Ancient Mesopotamia" (*JNES* for January, pp. 159-172), Thorkild Jacobsen draws a number of suggestive passages from the cuneiform texts which show the part played by common citizens in the governmental activities of the ancient city-states of Mesopotamia. Of similar character is an article by H. Liebesny (*JAOS* LXIII, 128-144), on "The Administration of Justice in Nuzi," illustrating from the Nuzi material a number of points concerning judicial procedure, and offering new interpretations of cuneiform terms.

A. L. Oppenheim's study of Akkadian *pul(u)h(t)u* and *melammu* appeared (*JAOS* LXIII, 31-34), and some "Assyriological gleanings" (*BASOR* No. 91). As No. 24 of the Chicago University's *Studies in Ancient Oriental Civilization,* has appeared a thin booklet by R. A. Parker and W. H. Dubberstein on *Babylonian Chronology 626 B.C.-45 A.D.*, giving six pages of text and 40 pages of tables, by the use of which students of the history of the ancient Near East can check quickly in terms of our calendar dates from the Babylonian calendar, and also those of the Persian, Greek, Seleucid, and Parthian calendars. In a lengthy article in the *Hebrew Union College Annual* (vol. XVII), Julius and Hildegard Lewy discuss the "Origin of the Week and the oldest West Asiatic Calendar," in which they assemble and interpret a great deal of material from the cuneiform records illustrating ancient time reckoning and calendar making.

W. F. Albright (*BASOR* No. 89) offers new interpretations of two of the Amarna Letters from the Jordan Valley, and discusses an archaic Hebrew proverb to be found in an Amarna letter from central Palestine. A useful beginning on an important enterprise has been made by I. Mendelsohn in his *Catalogue of the Babylonian Tablets in the Libraries of Columbia University: a List of Cuneiform Documents from the Sumerian, Old Babylonian, Kassite and Neo-Babylonian Periods,* with photographic reproductions of selected seals and clay objects.

Of quite unusual importance is the fact that, through the mediation of Henri Frankfort, the *JNES* in its April number was able to publish a report by Seton Lloyd on the Tell Uqair Excavations, which in spite of the war are being carried on by the Iraq Government's Department of Antiquities, and which has much material of interest for the earliest history of Mesopotamia, and even four new tablets with Archaic Inscriptions.

ARAMAIC

H. L. Ginsberg in an article "Aramaic Studies Today" (*JAOS* LXII, 229-238), discusses a number of points of interest in the history of the Aramaic dialects, in the form of a review-article of Franz Rosenthal's Lidzbarski Foundation Prize Essay. There is some further discussion by Levi della Vida and W. F. Albright (*BASOR* No. 90) on the interpretation of the Old Aramaic inscription of the stele of Ben Hadad. The question of the Aramaic origins of the Gospel tradition has come in for further discussion in an article by S. I. Feigin (*JNES* for July, pp. 187-197), where he suggests certain weaknesses in Goodspeed's rejection of the Aramaic hypothesis.

HEBREW

The whole of the September number of the *JBL* vol. LXII is given up to Alexander Sperber's essay "Hebrew Grammar, a New Approach," in which this pupil of Kahle's carries further his earlier studies, taking exception to the grammatical formulations of the well-known scientific grammars, such as those of Bergsträsser and Bauer-Leander, and offering new solutions and suggestions of his own. So, Harry M. Orlinsky has carried further his studies in Hebrew grammar by discussing (*HUCA* XVII, pp. 267-293), the prepositions *Tahat, Ben Ba'd* and the pronouns *Anu* and *Zo'tah*. There is a contribution by F. R. Blake (*JBL* LXII, 89-107) on the origin of the Daghesh in Hebrew, and (*JAOS* LXIII 176-178) a study by R. Gordis on the asseverative *Kaph* in Hebrew and Ugaritic. A number of grammatical points are discussed in Harry Englander's essay "A Commentary on Rashi's Grammatical Comments" (*HUCA* XVII, 427-498).

BIBLICAL

A number of Biblical studies that have special Semitic interest have appeared. In an article "The Evolution of a Financier in the Ancient Near East" (*JNES* II, 295-301), C. C. Torrey, starting from an article by J. W. Fischel on the importance in Mediaeval Baghdad of a banking firm of Joseph b. Phineas and Aaron b. Amram, takes up the term *jahbadh* = assayer, used in documents of the Abbasid Caliphate, a word which came into Arabic from the Persian, and connects it with the notices of the "Foundry" at the second Temple in Jerusalem, and the light that this can throw on certain passages in the *Old Testament*. David Jacobson's book, *The Social Background of the Old Testament,* published by the Hebrew Union College Press, while interested primarily in Hebrew institutions as recorded in the Biblical narrative, is really a study of the origins and early development of the fundamental social institutions of the Semitic peoples, and deserves mention as a promising contribution of a younger scholar.

W. E. Staples (*JNES,* April), has an essay endeavouring to discover what the writer of Ecclesiastes meant by "vanity" by studying the various classes of things that he regarded as vanities. The first part of Julian Morgenstern's study, "The Ark, the Ephod and the Tent of Meeting," has appeared (*HUCA* XVII, 153-266), making interesting comparisons of Israelite cult objects with what is known of the cult objects of the nomadic Arabs. H. G. May (*BASOR* No. 88) has discussed with illustrations the problem of Jachin and Boaz, the two pillars before the temple of Solomon, a discussion which incidentally throws light on the "horns of the altar," commonly known from altars of incense. The greater part of *BASOR* No. 91 is devoted to a paper by Nelson Glueck on "Some ancient Towns in the Plains of Moab." A. S. Halkin (*JQR* for July, pp. 41-59) has published (in Hebrew characters) the Scholia to Numbers and Deuteronomy in the Samaritan Pentateuch, which may throw some light on the disputed question of the authorship of the Arabic translation of the Samaritan.

JUDAISM

A very curious study of "Ancient Jewish Calendation" by Grace Amadon, with charts, diagrams and tables, appeared in the (*JBL* December, vol. LXI, pp. 227-280), and (*JQR* for October), A. Marmorstein discusses the oldest form of the Eighteen Benedictions. In the (*JQR,* July and October numbers), Paul Romanoff commenced a study, which promised to be of importance, on the symbols to be found on ancient Jewish coins, a study which has unfortunately been interrupted by his sudden death. Michael Higger has produced two further parts of his collection of the Baraitoth, and Alexander Sperber (*HUCA* XVII, 293-394), attempts a new interpretation in the light of our modern knowledge of the major problems of the Massorah, looking forward to a new edition of the text of the Hebrew Bible. A book of unusual interest, though falling somewhat outside Semitic studies in the strict sense, is Saul Lieberman's *Greek in Jewish Palestine* which offers many solutions of passages in the Rabbinic literature through a consideration of the Greek known and used by the Rabbinic authorities during the second, third, and fourth centuries.

The event of the year in Judaic studies was, of course, the Saadya Gaon celebration. One volume of studies entitled *Saadia Studies in Commemoration of the 1000th Anniversary of the Death of Saadia Gaon,* has been issued from Dropsie College, and contains seven articles —"Saadia and his Relation to Palestine" by A. A. Newman; "Saadia's Theory of Knowledge" by Israel Efros; "A Study of Inflection in Hebrew from Saadia Gaon's Grammatical Work" by S. L. Skoss; "The Double-Faith Theory in Saadia and Others" by H. A. Wolfson; "The Quest for Certainty in Saadia's Philosophy" by A. Heschel; "Saadia's Siddur" by Louis Ginzberg; and "Saadia, Champion for Jewish Unity" by S. Zeitlin. A further volume of Saadia studies by the Jewish Historical Society is in the press, and meanwhile the Bloch Company has issued a translation by M. Z. R. Frank of David Druck's *Saadya Gaon, Scholar, Philosopher, Champion of Judaism.*

ARABIC

Of primary linguistic interest should be noted the little volume *Everyday Arabic* published by the McKay Co. at Philadelphia, and Zellig Harris, study of the phonemes of Moroccan Arabic (*JAOS* LXII, 309-318). The Arabic and Islamics Committee of the American Council of Learned Societies worked all winter on the preparation of an Arabic Chrestomathy to serve the needs of practical teachers of Arabic in the universities and seminaries, and the result of their work may be expected shortly. In the *Moslem World* for April, H. A. Wolfson, in an essay "The Terms *Tasawwur* and *Tasdiq* in Arabian Philosophy and their Greek, Latin and Hebrew Equivalents," makes some useful comparisons. Eric Werner and Isaiah Sonne continue their discussion of "The Philosophy and Theory of Music in Judaeo-Arabic Literature" (*HUCA* XVII, 511-57). Nabia Abbott's *Aisha the Beloved of Mohammed* offers a brief biography of the Prophet's favourite wife. Also from Chicago comes the volume *Near East, Problems and Prospects,* edited by Philip W. Ireland, and containing the public lectures delivered on the Harris Foundation at Chicago.

The concluding portion of the photographs of the Berlin Druze Lexicon by Martin Sprengling appears in *JNES* in the July number. Franz Rosenthal's *Ahmad b. at-Tayyib as-Sarakhsi,* published by the American Oriental Society as No. 26 of Oriental Series, is a model of careful work in the collection of the surviving fragments of an Arabic prose writer of the IXth Century, who is important as being a disciple of the great al-Kindi. G. von Grünebaum (*JAOS* LXII 277-292) discusses certain Greek form elements to be discovered in the tales of the Arabian Nights. In the same journal (vol. LXIII, 4-14), Wolf Leslau examines in detail the evidence for the dialectal unity of Ethiopic and South Arabian as a South East Semitic Group, and shows that the assumed relationship holds good when phonology, morphology, and vocabulary are exhaustively compared.

EGYPTOLOGY

H. E. Winlock (*JNES* for October pp. 249-283), gives a full account of what can now be said with certainty about the somewhat obscure XIth Dynasty of Egypt *c.* 2143-2007, in an article that is excellently illustrated. O. Neugebauer (*JAOS* LXIII 115-126), has studied a number of Demotic horoscopes on ostraca, providing useful plates in illustration thereof. An unusually interesting illustrated article by H. H. Nelson (*JNES* for January pp. 40-55), studies the naval battle under Ramses III, pictured at Medinet Habu, where the "enemy" were those seafaring peoples disturbed by movements in Asia Minor and the Aegaean, and who, though Ramses III prevented them from getting a foothold in Egypt, yet did succeed in settling on the coasts of Palestine.

INDO-EUROPEAN LINGUISTICS*

By George S. Lane
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WAR AIMS AND EFFORTS OF THE INTENSIVE LANGUAGE PROGRAM

This Program is not concerned directly with research in Indo-European linguistics, the field normally covered by this section, yet it is the activity on which the greatest number of linguists, Indo-Europeanist or otherwise, are concentrating their efforts. Consequently, it deserves primary place in this report of linguistic activity in time of war. A first report of the beginnings of this Program, which is sponsored by the American Council of Learned Societies, is to be found in the The American Year Book for 1942 (p. 201). Now that it has been in operation for practically two years, a more complete report can be made.

The aim of the Program has been to develop in America large-scale intensive instruction in the spoken forms of all languages likely to be useful in the war effort. To this end it had to concern itself, not only with the establishment of courses of instruction, but with the provision of teaching materials and teachers and with the exploration of newer methods, for in general, on account of the emphasis which traditional university language teaching has placed upon the acquisition of a reading skill, materials and methods for rapid instruction in the spoken forms had previously not been developed, especially with respect to the languages not customarily a part of American education. The *Report of the First Year's Operation of the Intensive Language Program* of the American Council of Learned Societies describes this phase of the enterprise as it was maintained throughout 1942. The end of that year marked quite a considerable advance in the implementation of the intensive study of Arabic, Chinese, Russian, Japanese, Thai, Malay, Swahili, Haussa, Fante, Finnish, Hungarian, Turkish, and other languages. The year 1943 was to see the Program step off in new directions.

Meanwhile, the Program was working in close cooperation with language teaching enterprises which the Army was developing for its own purposes—the Language Program of the Education Branch of the Special Service Division, Foreign Area and Language Curricula of the Army Specialized Training Program, Civil Affairs Specialists Program of the Provost Marshal General's Office, and one enterprise in teaching Chinese to officers in the Division of Military Intelligence. This fact, and the disappearance of practically all civilian instruction in the universities as the students went into the war effort, brought it about that the Army's language programs and the Intensive Language Program of the Council tended to coalesce, particularly around the production of the so-called Army Second-Level materials for teaching foreign languages. These materials comprise 30 learning units covering about the first 200 hours of instruction in the spoken form of upwards of 30 languages. They are in varying stages of completion; some of them are finished and are being used in courses with great success. They are being published and made available to the public as rapidly as is possible under present circumstances.

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* The writer is indebted to Dr. J. M. Cowan and Prof. Einer Haugen for information in portions of this review.

THE LINGUISTIC INSTITUTE

The Linguistic Institute, held in recent years at Ann Arbor and later at Chapel Hill, was held in 1943 at the University of Wisconsin. The faculty consisted as usual of resident professors, *e.g.* Myles Dillon (Irish), K. G. Bottke (French), Miles Hanley (English), Einar Haugen (Scandinavian and director of the Institute), R. M. S. Heffner (German), L. A. Kasten (Spanish), E. Zawacki (Polish), and of visiting instructors from other institutions: W. F. Albright (Johns Hopkins, Semitic), J. Bonfante (Princeton, dialect geography), M. B. Emeneau (California, Indic), Mary R. Haas (Michigan, Thai), E. H. Sturtevant (Yale, Hittite). Courses were offered in Introduction to Linguistic Science, Linguistic Field Methods, Linguistic Geography, in Scandinavian, Romance and Germanic linguistics, as well as in individual languages such as Thai, Irish, Arabic, Polish, Portuguese, Sanskrit, and Hittite.

Particular emphasis was placed upon the intensive method of language instruction in an attempt to correlate the work here with that being done by similar methods in the Army Specialized Training Programs for Area and Language. (See above Intensive Language Program).

GENERAL

Many of the publications in linguistics for 1943 can be attributed directly or indirectly to the Intensive Language Program. A list of those published or projected is contained in Dr. J. M. Cowan's *Report* to the American Council of Learned Societies at its annual meeting, in New York, Jan. 28-29. Only a few of these, however, which are of such general interest as to concern the Indo-Europeanist, will be mentioned here. Of first interest possibly are Bloomfield's *Outline Guide for the Practical Study of Foreign Languages* and Bloch and Trager's *Outline of Linguistic Analysis.* Both were published to serve primarily as guides for those of the armed forces who are compelled to learn a foreign language quickly and for the most part without the benefit of regular classroom instruction or textbooks. Reviews of both these pamphlets will be found in *Language* 19. 42-4 (Sturtevant), *JAOS** 63. 208-9 (Emeneau), *Cl. Weekly* 36. 238 (Gummere), and in *Cl. Ph.* 38. 210-11 (Whatmough, adverse). Some idea of the working out of the system can be derived from the article by Mary R. Haas, "The Linguist as a Teacher of Languages" (*Lang.* 19. 203-8), which draws primarily from the author's experiences in teaching Thai.

Other items of interest to general linguists: Bloomfield, "Meaning" (*Monatshefte für deutschen Unterricht* 35. 101-6), where the author points out the futility, or rather the ultimate impossibility, of defining the meaning of grammatical categories or even of words, except by use in as many contexts as possible. Kenneth L. Pike, "Taxemes and Immediate Constituents" (*Lang.* 19. 65-82) is a critical examination of some chapters in Bloomfield's book *Language* (Holt, 1933). Of more popular content is V. Coutant, "General Language and the Latin Teacher" (*Cl. Jour.* 38. 347), which outlines the author's view on the purposes and content of the general language course.

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* The less obvious abbreviations are: *JAOS Journal of the American Oriental Society, Cl. Ph. Classical Philology, Cl. Wk. Classical Weekly, JEGPh. Journal of English and Germanic Philology, AJPh. American Journal of Philology, PMLA Publications of the Modern Language Association, MLN. Modern Language Notes, TAPA Transactions of the American Philological Association.*

The history of linguistics has called forth two interesting articles, one by F. Edgerton, "Notes on Early American Work in Linguistics" (*Proceed. Am. Philos. Soc.* 87. 25-34), and W. F. Twaddell, "Fr. Schlegel's Criteria of Linguistic Relation" (*Monatshefte für deutschen Unterricht* 35. 151-5).

The most important work of the year for the Indo-Europeanist, and likewise for comparative and historical linguistics in general is Sturtevant's *The Indo-Hittite Laryngeals* published at the end of 1942 by the Linguistic Society (Baltimore). Here we have a succinct resumé of America's foremost sponsor of the laryngeal hypothesis (c.f. THE AMERICAN YEAR BOOK for 1942 p. 902, 1941 p. 908), the most important addition to our ideas of Indo-European phonology since Brugmann and the Neo-Grammarians (reviews by R. G. Kent in *Lang.* 19. 165-8, and by G. S. Lane in *JEGPh.* 42. 577-81).

F. Edgarton in "The Indo-European Semivowels" (*Lang.* 19. 83-124) gives a detailed account of his views of the phonetic values of the semivowel phonemes in various positions, particularly as regards the operation of Siever's law. This is perhaps the most important article on IE phonology for the year.

HITTITE AND INDO-IRANIAN

Besides *The Indo-Hittite Laryngeals* reported above, Professor Sturtevant has continued his Hittite studies with two articles, one on phonology (in conjunction with G. L. Trager) "Hittite *i* before Vowels" (*Lang.* 19. 209-20), chiefly the phonemic interpretation of the orthographies *i, e, y* before vowels, and "Hittite *ia*—'make, do, perform'" (*JAOS* 63. 1-3), a discussion of the relation between the verbal stems *ia* and *essa*.

For Sanskrit P. Tedesco in "Sanskrit *milati* 'to unite'" (*Lang.* 19. 1-18) considers that we have here a Middle Indic form for *miślate* variant of *miśrayati* 'mixes' and treats in great detail the ramifications of the group in later Indic. Of particular importance for Indic is of course the article of Professor Edgerton on the IE semivowels mentioned above. In Iranian, Professor R. G. Kent continues his Old Persian researches with two addenda to Behistun inscriptions 1. 86 and 4. 44 (*JAOS* 63. 67-8) and "Studies in Old Persian Morphology" (*Lang.* 19. 221-29).

GREEK AND ITALIC

The discussion by K. von Fritz, "Νοός and Νοεῖν in the Homeric Poems" (*Cl. Ph.* 38. 79-93) is an excellent example of semantic analysis preliminary to an etymological investigation. C. R. Thompson, "Some Greek and Grecised Words in Renaissance Latin" (*AJPH.* 64. 333-5), concerned chiefly with Erasmus, is of interest to the classicist as well as the medievalist. Another discussion of "The Etymology Sine" (*TAPA* 73. 54-7) is offered by R. G. Kent in which a purely Latin origin as *sed-ne* is preferred. In Latin syntax we have the Pennsylvania dissertation of Father J. J. Gavigan "The Syntax of the *Gesta Francorum*" (*Lang. Diss.* no. 37, Baltimore 1943), and an article by Anna D. Kek, "The Passive Periphrastic Construction in Caesar's Writings" (*Cl. Wk.* 36. 51). Anna G. Hatcher's monograph "Reflexive Verbs: Latin, Old French, Modern French" (Johns Hopkins Press, 1942) is perhaps of greater interest to the Romance scholar than to the classicist (reviews by Haden, *Cl. Wk.* 36. 45f. and Malkiel, *Lang.* 19. 49-53). For the Italic dialects, we have R. L. Ward's attempt at a phonetic interpretation of "*O* and *U* in the Oscan System" (*Lang.* 19. 152-4). Professor Sturtevant's article "The Intensive

Language Program and the Teaching of Latin" (*Cl. Wk.* 37. 15-17) discusses the lessons to be learned from the "intensive method" by the teacher of a dead language. His recommendations are logical: a great amount of time spent at the outset, with stress on pronunciation and memorization of passages rather than on individual words.

GERMANIC

W. P. Lehmann in "The Indo-European *dh-* Determinative as a Germanic Preterite Formation" (*Lang.* 19. 19-26) holds that this formative element gave rise to the Germanic dental preterite and in this connection gives us an excellent survey of the literature on this moot subject. In an article for the teacher of German, E. H. Mueller, "The Origin of Gender in German" (*Germ. Quart.* 16. 90-8), reviews various theories on the origin of Germanic (=Indo-European) gender, chiefly those of Grimm, Brugmann, Hirt, and Prokosch. R. W. Fowkes, "Two Germanic Etymologies" (*JEGPh.* 42. 269-70), considers possible Celtic connections for the Germanic *gamana-* 'joy' and *aikana-* 'speak'. H. Meroney, "Gothic *izwis*" (*JEGPh.* 42. 231-5) presents a good critical survey of the history of the research done and of the problems involved in analyzing this much discussed pronoun. E. A. Philippson in *"Eine missverstandene Nachricht über die Krimgoten"* (*PMLA* 58. 264) seems to have struck a happy interpretation of Kämpfer's geographical reference *Zerch osafke* as *Kerch* and *azovskoe* referring to the Kerch Peninsula and the Sea of Azov.

In Norse, Professor A. M. Sturtevant has continued his publication of gleanings from his long continued studies. The collection of "Old Norse Philological Notes" which he publishes in the Flom volume of *Scandinavian Studies* (Univ. of Illinois Press, Urbana, 1942) contains remarks on (1) the development of some preterite forms in *-dd-*, (2) the change of *b* to *f*, (3) the gemmination *-mm-*, (4) the preservation of syllabic quantity in the development of diphthongs, and (5) on some sporadic cases of shift in gender. Another collection of Professor Sturtevant's "Notes on Old Norse Phonology" will be found in *Scand. Studies* (17. 157-66), and "A Note on the *u*-Declension in Old Norse" in *MLN* (58. 454-5). Further, he has furnished us some addenda to and criticism of Prokosch in "Notes on Verner's Law in the Old Norse Strong Verbs" (*MLN* 58. 27-8). Two interpretative notes by F. Metzger complete the list for Norse: "A Note on the Meaning of *'Hveim er fúss er fara'*, For Skírnis 13.2" (*Scand. Studies* 17. 154-5) and "A Semantic and Stylistic Study of Eddic *brec, súsbreki* (*JEGPh.* 42. 236-9)

A few other studies for English should be mentioned: F. Metzger, "Two Etymologies" (*Lang.* 19. 216-8), treating OE *swicn* 'acquittal', Goth. *freistim* (dat. pl.) 'children', and M. B. Ogle, "The Apple of the Eye" (*TAPA* 73. 181-91), an expression which the author considers to originate from an early confusion of Lat. *pupilla* with *pila* 'ball', translated by 'apple'. A. Senn's discussion of "Problems of MHG Accentuation" (*Monatshefte f. d. Unterricht* 35. 133-7), is chiefly an answer to Walz's criticism of Senn's treatment of accent in his review of Senn's *Introduction to Middle High German.* C. F. Bayerschmidt in "The Question of a MLG *Schriftsprache*" (*Gmc. Rev.* 18. 3-10) concludes that, while we can not actually speak of a standard language, there was at least a tendency toward normalization.

CELTIC AND SLAVIC

For Celtic, we have Myles Dillon, "On the Structure of the Celtic Verb" (*Lang.* 19. 252-5) and the etymological article by Fowkes mentioned above. For Slavic, P. Tedesco published a discussion of the possible connections between the "Slavic *loza* and Persian *räz,* both 'vine'" (*JAOS* 63. 149-55). R. H. Ružić published a monograph on *The Aspects of the Verb in Serbo-Croatian = Univ. of Calif. Publ. in Mod. Phil.* 25, No. 2 (Berkeley 1943). A review by G. Trager is found in *Language* 19. 272-5.

PERIODICAL PUBLICATIONS

American Historical Review
60 Fifth Ave., New York City.
American Journal of Philology
Johns Hopkins Press, Baltimore.
American Journal of Semitic Languages and Literatures
5750 Ellis Ave., Chicago.
American Spectator
683 Broadway, New York City.
American Speech
Columbia University Press, New York City.
Atlantic Monthly
8 Arlington Street, Boston.
Celtic Digest
Columbia University, New York City.
Classical Journal
Ann Arbor, Mich.
Classical Philology
5750 Ellis Ave., Chicago.
Classical Weekly
4200 Fifth Ave., Pittsburgh, Pa.
Commonweal, The
386 Fourth Ave., New York City.
Editor and Publisher
1475 Broadway, New York City.
Germanic Review
Columbia University Press, New York City.
Harper's Magazine
49 East 33d Street, New York City.
Hispanic American Historical Review
Duke University Press, Durham, N. C.
Journal of American History
175 Fifth Ave., New York City.
Journal of English and Germanic Philology
University of Illinois, Urbana, Ill.
Journal of Modern History
5750 Ellis Ave., Chicago.
Lance
2512 East 5th Street, Dayton, O.
Language
Mount Royal and Guilford Aves., Baltimore, Md.
Library Journal
62 West 45th Street, New York City.
Library Quarterly
5750 Ellis Ave., Chicago.
Literary America
175 Fifth Ave., New York City.
Literary World
12 Mount Morris Park W., New York City.
Magazine
512 California Bank Building, Beverly Hills, Calif.
Modern Philology
5750 Ellis Ave., Chicago.
New England Quarterly
200 Stevens Hall, Orono, Maine.
North American Review
420 Madison Ave., New York City.
Philological Quarterly
State University of Iowa, Iowa City, Ia.
Poetry
232 East Erie Street, Chicago.
Poetry Digest
220 West 42nd Street, New York City.
Poetry Review
570 Lexington Ave., New York City.
Poet's Magazine
101 West 44th Street, New York City.
Romanic Review
Columbia University Press, New York City.
Saturday Review of Literature
25 W. 45th St., New York City.
Scribners-Commentator
654 Madison Ave., New York City.
Studies in Philology
University of North Carolina Press, Chapel Hill, N. C.
Words
808 South Vermont Ave., Los Angeles, Calif.
Yale Literary Magazine
Yale Station, New Haven, Conn.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Academy of Arts and Letters, 633 W. 155th St., New York City.

American Academy of Arts and Sciences, 28 Newbury St., Boston.

American Booksellers Assn., 35 E. 20th St., New York City.

American Council of Learned Societies, 1219 16th St., N.W., Washington, D. C.

American Library Assn., 520 N. Michigan Ave., Chicago, Ill.

American Newspaper Guild, 14 Pearl St., New York City.

American Newspaper Publishers' Assn., 370 Lexington Ave., New York City.

American Philosophical Assn., Wesleyan University, Middletown, Conn.

American Philosophical Society, 104 S. Fifth St., Philadelphia, Pa.

American Society of Composers, Authors and Publishers, 30 Rockefeller Plaza, New York City.

American Society of Newspaper Editors, Times-Union Bldg., Rochester, N. Y.

Associated Press, The, 50 Rockefeller Plaza, New York City.

Association of National Advertisers, 285 Madison Ave., New York City.

Bibliographical Society of America, 47 E. 60th St., New York City.

Book Publishers Bureau, 347 Fifth Ave., New York City.

Foreign Publicity Service, 77 Bowery, New York City.

National Editorial Assn., 188 W. Randolph St., Chicago, Ill.

National Institute of Arts and Letters, 633 W. 155th St., New York City.

National Publishers' Assn., 232 Madison Ave., New York City.

Newspaper Advertising Executives Assn., 1708 Mariner Tower, Milwaukee, Wis.

United Press Assn., 220 E. 42nd St., New York City.

U. S. Publishers Assn., Inc., 386 Fourth Ave., New York City.

AMERICAN LITERATURE

American Dialect Society, Bascom Hall, Madison, Wis.

Authors Guild, 6 E. 39th St., New York City.

Authors League of America, Inc., 6 E. 39th St., New York City.

Catholic Writers Guild of America, 128 W. 71st St., New York City.

National Assn. for American Speech, 174 W. 76th St., New York City.

Simplified Spelling Board, Lake Placid Club, Essex County, N. Y.

Walt Whitman Society of America, 377 Anchor Ave., Oceanside, N. Y.

LANGUAGE AND LITERATURE

American Classical League, Vanderbilt University, Nashville, Tenn.

American Oriental Society, 329 Sterling Memorial Library, New Haven, Conn.

American Philological Assn., Swarthmore College, Swarthmore, Pa.

Dante Alighieri Society of New York, 626 Fifth Ave., New York City.

Dickens American Fellowship, 570 Lexington Ave., New York City.

Modern Language Assn. of America, 51 West 4th St., New York City.

DIVISION XXVI

THE ARTS

PAINTING

By Florence S. Berryman
The American Federation of Arts

EFFECT OF WAR ON ART

Painting felt the effects of the war in increasing tempo during 1943. Large numbers of practicing artists, as well as art museum directors and other employees were drawn into the armed forces. Selected artists were commissioned to further the war effort through propaganda and documentary paintings and other work. Transportation, overburdened, could not be utilized as freely for the extensive conveyance of works of art. Many art institutions with fixed budgets, were financially handicapped amidst rising costs. Furthermore, surtaxes absorbed the excess incomes of the classes which traditionally support cultural movements, while the bulk of the rising national income went to those who have little or no interest as yet in contributing to artistic development. At the same time, the Government largely withdrew from art support, with the dissolution of Works Progress Administration at the end of 1942, and the reduction of the Section of Fine Arts to a skeleton staff in the spring of 1943.

There was widespread effort by art museums to participate more directly in war work by establishing canteens and servicemen's clubrooms, and by holding dances and related programs which inevitably diverted funds and energy from purely esthetic activities.

Many developments noted in 1942 continued unabated, such as the creative industry of young artists in the armed forces, and efforts by museums and art associations to afford them opportunities to exhibit their work; the circulation of art exhibitions to army camps; and admission charges to important exhibitions for the benefit of war and relief funds.

The outstanding event of the year was international in character, and related not only to painting, but to all the spatial arts: American recognition of the appalling problem of German destruction and theft of Europe's cultural heritage, and the U. S. Government's appointment of an American Commission for the Protection and Salvage of Artistic and Historic Monuments in Europe. (See "Protection and Salvage of Europe's Art.")

GOVERNMENT AND WAR ART

The War Department in March selected artists in the armed forces, and a few prominent civilian painters, and began forming them into units of two to five artists each, both military and civilian, to paint under Army supervision, what they saw on battle fronts. Their assignments were elastic, along the lines of artists' activities in Great Britain and Russia, to make a complete picture of the war. The project was under the direction of Major-Gen. Eugene Reybold, Chief of Engineers, assisted by the War Department Art Advisory Committee of museum directors and other art leaders.

By the end of April, eight artists

had gone to the Southwest Pacific and Alaska, 20 were civilian employees of the War Department, and 14 others awaited sailing orders. To support the project, the sum of $125,000 was requested as a part of the Army Appropriation Bill for 1943-44.

Congress, just before adjournment, struck out the $125,000 appropriation, which left the painters stranded. *Life* Magazine took over contracts with 12 of them; *Collier's* signed Howard Cook.

LIFE'S WAR ART PROJECT

Life already had a war art project, begun in 1941. Its fruits were shown to the United States beginning in July, when 140 paintings and drawings, selected from 200 done by nine eminent artists appointed *Life* war correspondents, were exhibited at the National Gallery of Art, Washington. Many of the works had been reproduced in *Life*. In August the exhibition started on a tour which would take it to New York City, Springfield, Mass., Boston, Philadelphia, Chicago, Toledo, St. Louis, Kansas City, Kan. Colorado Springs, San Francisco, Los Angeles, Detroit, Cleveland, and Baltimore after which it will be presented to the Government (sometime in 1944).

Artists commissioned by *Life*, both for its original project and those taken over after the War Department cancelled their contracts, included: George Biddle, Henry Billings, Julien Binford, Aaron Bohrod, Tom Craig, Floyd Davis, David Fredenthal, Peter Hurd, Joe Jones, Reuben Kadish, Lucien La Baudt, Edward Laning, Tom Lea, Carlos Lopez, Reginald Marsh, David Stone Martin, Fletcher Martin, Frank Mechau, Barse Miller, Bruce Mitchell, Bernard Perlin, Henry Varnum Poor, Edna Reindel, Paul Sample, Millard Sheets, and James Turnbull.

TREASURY DEPARTMENT'S "ART FOR BONDS"

The Treasury Department sponsored an exhibition "Art for Bonds," comprising 36 original paintings by American artists, from which posters were reproduced. It opened in the Brooklyn Museum in April, the inaugural showing in a tour of the country under auspices of the Treasury Department. As the price of admission to the show at its opening, 2,500 people purchased $330,000 worth of bonds. On Bataan Day, in a ceremony dedicated to heroes of Bataan, Mrs. Henry Morgenthau, Jr., in the presence of Major General Basilio J. Valdes, chief of staff of the Philippine Army under General MacArthur, presented Treasury Department citations of merit to 22 of the 29 participating artists, and also to Abbott Laboratories of Chicago, which donated 24 of the 36 paintings to the Treasury Department. Each of these Abbott-commissioned paintings will be given to a museum which qualifies to receive it, by selling a suitable quota of war bonds. The Brooklyn Museum earned one by raising more than its quota of $800,000 in bonds for the Second War Loan Drive.

METROPOLITAN-WHITNEY MUSEUM MERGER

Announcement that the Metropolitan Museum of Art, New York City, on January 18, 1943, at its annual meeting, had effected a coalition with the Whitney Museum of American Art, created widespread consternation in the art world. The latter museum, located for 12 years at 10 West 8th Street, had been an outstanding vital force in living American art, exhibiting, and purchasing the works of promising young artists, instead of confining its encouragement to artists well established. Gertrude Vanderbilt Whitney, founder and president of the Whitney Museum, inaugurated it with a collection of 600 paintings bought over a period of 25 years. This number was increased to 2,000 works (paintings and others) in the Museum's 12 years of life, all works bought from living American artists. Plans are envisioned for a Whitney Wing, a new structure attached to the Metropolitan Museum, to be built after the war. Mrs. Juliana Force, dynamic director of the Whitney Museum, is to become advisory director to the trustees of the Whitney Wing. The Whitney has $2,500,000 left in trust by the founder, of which only the income may be used for maintenance of the collection and its activities.

When in November the Whitney Museum held in its old home its annual exhibition of contemporary American art (paintings and other works) there was much rejoicing in the art press. Hopes were voiced that the Metropolitan may decide to leave its "Whitney Wing" on 8th Street, following the precedent set by the Cloisters branch at Fort Tyron Park. The Whitney's 1943 annual impressed the critics as better than ever, and the sum of $20,000 was made available for purchases: $10,000 from the Metropolitan Museum's Hearn Fund, and an equal amount from the Whitney trust.

MUSEUM ACQUISITIONS

Blumenthal and Griggs Collections.—The Metropolitan Museum of Art, New York City, opened to the public in December (1943) for the first time, two munificent gifts and bequests. The entire collection of Mediaeval and Renaissance works given or bequeathed by George Blumenthal, the Museum's president at the time of his death in 1941, was opened Dec. 7 with an evening reception (the first at the Metropolitan Museum since the war began). Including rare Byzantine, Flemish, Sienese, Italian, Spanish, and other paintings, as well as works in many other categories, the collection will be shown as an entity for one year, in three galleries. Among these treasures is the only painting in America by Joos van Gent, "Adoration of the Magi."

Maitland Fuller Griggs' collection of 13 paintings by Sienese and Florentine artists of the 14th and 15th centuries, bequeathed on his death in July, opened at the Metropolitan Museum as a special Christmas show, because all but one of the paintings depict religious subjects. Especially noteworthy are "Madonna and Child with Saints and Angels" by Barna da Siena, Sassetta's "Journey of the Magi," and "The Chess Players" by di Giorgio. This collection will be shown as an entity until spring, 1944.

Harvard University's Fogg Art Museum received by bequest of Grenville L. Winthrop, who died in Jan. 1943, nearly 4,000 objects of art, including exceptional groups of paintings by French and British artists of the 18th and 19th centuries and good examples of Italian and Spanish schools. The bequest, with an endowment fund for care of the collection, made the Fogg Museum one of the richest in the country.

Gallatin Collection at Philadelphia.—The famous collection of abstract painting belonging to A. E. Gallatin, which for 15 years has been on view in the main building of New York University, known as the "Museum of Living Art," was taken down the end of 1942 by order of the Chancellor, Dr. Harry Woodburn Chase, "to make room for more books." In February, the Philadelphia Museum of Art invited the Gallatin collection to be hung there, first in its entirety in May; subsequently it was placed as a unit in chronological sequence with the Museum's own examples by the various artists. The collection of 170 works, the majority paintings, is to be on loan to the Museum during Gallatin's lifetime; thereafter it will become the property of the Museum. During the summer it was announced that the Berkshire Museum, Pittsfield, Mass. would receive 15 of Gallatin's ultra-modern paintings.

Chester Dale Gifts and Loans.—Mr. and Mrs. Chester Dale of New York City, whose benefactions to the National Gallery of Art, Washington, D. C. were recorded in THE AMERICAN YEAR BOOK for 1941 and 1942, augmented the collections of three museums during 1943. They lent to the Art Institute of Chicago for an indefinite period, 52 outstanding paintings by leaders of modern

French art: Picasso, Matisse, Braque, Modigliani (the best group of his work in existence), and many others. Installed in three galleries and surrounded by the Institute's own large collection of 19th century French painting, the Dale collection was opened April 26. The Institute, now presenting an unbroken survey of the best painting from Delacroix through Picasso, was estimated on the basis of attendance, to have become the second biggest art attraction in the United States this year (the National Gallery remaining first).

The National Gallery received more than 20 paintings from Mr. and Mrs. Chester Dale; 11 old masters among them have been on loan for some time. They include the famous El Greco "St. Jerome," Boucher's "Venus Consoling Love," a portrait by Drouais, two paintings by Chardin, "Painter's Studio" by Boilly, Tintoretto's "Venetian Senator," and several others.

The Philadelphia Museum received as a long-term loan from Mr. and Mrs. Dale, about 40 paintings by 19th and 20th century French and Americans.

Early Americans.—A superb group of 63 portraits of Americans, covering 150 years of American painting, to mid-19th century, was given to the National Gallery by the A. W. Mellon Educational and Charitable Trust. The group is part of the famous Thomas B. Clarke collection, and includes 19 examples by Gilbert Stuart.

The National Gallery received as a gift from the Harris Whittemore collection, two important Whistlers, "The White Girl" and "L'Andalouse," representing two periods of the artist's career, 30 years apart. These paintings have been on loan.

The California Palace of the Legion of Honor, San Francisco, acquired Copley's handsome portrait of Joshua Heneshaw, long exhibited at the Boston Museum of Fine Arts.

Contemporary Americans.—The University of Arizona, through the generosity of an anonymous benefactor, acquired a collection of 100 modern American paintings, watercolors and drawings, which was exhibited at the Whitney Museum of American Art, New York, in April. The "Arizona Plan" collection was begun in 1942 by an art lover interested in the future of American art, who thought it would benefit if private individuals collected for art centers instead of for their own pleasure. In consultation with Bruce Mitchell, painter, the donor embarked upon a "five year plan" to purchase 15 or 20 works annually. In 1943 it was decided to accelerate the acquisition. Only living artists' works are purchased, and the range is from realism to abstraction. The collection has cost approximately $20,000.

The Walker Art Center of Minneapolis undertook a collection of contemporary American painting, purchasing 13 works as a nucleus, from an exhibition of nearly 100 paintings representing various trends, assembled for the purpose by Hudson D. Walker of New York, formerly an art dealer, and grandson of the founder of the Walker Art Center.

The Art Museum of the New Britain, Conn. Institute received in 1942 gifts of money from wealthy industrialists to purchase American paintings. A large group was acquired from an exhibition put on by invitation by 12 New York art dealers. In May, 1943, a second show was held by 15 art dealers, purchases from which brought the collection total to 38, largely paintings.

The Museum of Modern Art, New York City, bought what it declared was its "most important American acquisition to date"—Peter Blume's "Eternal City," surrealistic cartoon painting of Mussolini, which has had a controversial history since it was completed in 1937.

Italian School.—The Boston Museum of Fine Arts acquired two outstanding paintings of the Italian Renaissance: a superb altarpiece by Paolo Veronese, "Virgin and Child in Glory with Saints," one of the very few large works by this master in the United States; and a portrait of an unknown gentleman by Titian.

Northern Schools.—Hans Holbein's portrait of Lady Gudeford, an unusually penetrating characterization, painted in 1527, was acquired by the St. Louis City Art Museum. The Joslyn Memorial, Omaha, acquired "Young Man with a Pink" by Joos van Cleve.

Spanish School.—The latter museum purchased a famous portrait by Goya, of the Marquesa de Fontana, from the present Marquis de Fontana of Madrid. Another outstanding Goya, portrait of Don Juan Antonio Cuervo, was purchased by the Cleveland Museum of Art. The Metropolitan Museum of Art bought Del Mazo's famous portrait of Infanta Maria Teresa from the J. Pierpont Morgan collection, and a splendid "Virgin and Child" by Murillo, in his maturity.

French School.—The Toledo Ohio Museum acquired a religious panel, a French primitive of the 15th century, depicting St. George and the Dragon; and received as a gift from Edward Drummond Libbey, its first Cézanne, a landscape "The Glade." The Cleveland Museum purchased a lovely early Renoir, portrait of Mlle. Romaine Lacaux. The Joslyn Memorial, Omaha, acquired Monet's "Palmiers a Bordighera." A major painting by Seurat, "La Chahut," one of only four oils by this artist in the United States, was acquired by the Albright Art Gallery, Buffalo.

Morgan Paintings to Indianapolis.—Two masterpieces from the J. P. Morgan collection, "Man with a Glove" by Corneille de Lyon and Hobbema's "Landscape" (once in the collection of Lord Trevor, 18th century), were purchased and given anonymously in memory of Daniel and Elizabeth Marmon, to the John Herron Art Institute, Indianapolis. The presentation was made by Booth Tarkington.

EXHIBITIONS

War Difficulties.—The number and quality of exhibitions held during the year in many parts of the country were surprising, in view of war-created difficulties such as the overloaded transportation facilities. This problem was most acute for the recurrent annual exhibitions held by museums and other institutions, which afford living artists their greatest opportunities. The Pennsylvania Academy of Fine Arts, Philadelphia, The Corcoran Gallery of Art, Washington, and The Art Institute of Chicago, for example, held exhibitions by invitation only, instead of following their traditional policies of "Open to all." These annuals were smaller than in former years.

The Corcoran Biennial's four generous prizes totalling $5,000 went to Henry Mattson, Aaron Bohrod, Raphael Soyer and George Picken. This first large national display (March 21 to May 2) of paintings done largely since Pearl Harbor, surprised critics with its dearth of war subjects.

The Pennsylvania Academy continued its concrete support of contemporary American painting by purchasing from its 138th annual, early in the year, nine paintings and several sculptures for approximately $6,000. In the past 14 years, the Academy has turned over to living artists about $140,000 through sales, prizes, and purchases.

Art Institute of Chicago.—Romanticism was the predominant note in the 54th annual of The Art Institute of Chicago which opened in October. Seven prizes totalling $2,700 went largely to experimental painting. A special feature was a one-man show of 21 recent paintings by Edward Hopper. The Institute held its 22nd watercolor international during the summer, in which three American painters were honored with solo displays of large groups of their works: William Gropper, 30; John Marin, 28; and Boardman Robinson, 38. Many European refugee painters were represented, as well as many Mexicans.

The National Academy of Design, New York City, held its 117th annual of painting, sculpture, and prints in its spacious new home at Fifth Avenue and 89th Street. Nineteen galleries on four floors made possible a larger show than heretofore; 447 exhibits offered a wide range from conservatories to abstractionists. Eleven prizes to paintings totalled $2,275.

The Carnegie Institute, Pittsburgh, unable to offer its annual international, opened in October, the largest and most comprehensive exhibition of contemporary American paintings ever shown there: 304 works by as many artists. Seven prizes awarded totalled $3,200.

OTHER SHOWS OF AMERICAN PAINTING

The Museum of Modern Art, New York City, opened in November (to remain until February, 1944) "Romantic Painting in America" comprising 213 works by 120 artists covering 3 centuries, from West and Copley to living painters. It is the Museum's major offering for the season 1943-44. Although criticized as interpreting the theme too elastically, it is applauded as an exciting show.

The Milwaukee Art Institute's "Masters of Contemporary American Painting," in March, 51 major works by as many artists, living or recently deceased, covering the quarter century of peace between two world wars, was considered outstanding.

Noted American Impressionists were commemorated in a series of exhibitions held in April and May, through collaboration by three New York art dealers. Paintings by Theodore Robinson (who died in 1896) were shown by Macbeth; by Childe Hassam, at Milch Galleries; and by Ernest Lawson, at Babcock. Most of the paintings were loans.

Brooklyn Museum.—"The Eight," Revolutionary group of 1908, including Henri, Davies, Glackens, Lawson, Luks, Prendergast, Shinn and Sloan, were reviewed in an impressive exhibition of 86 paintings and many drawings, at the Brooklyn Museum, November to January 16, 1944. Many of the paintings were shown in the original 1908 exhibition at the Macbeth Gallery.

City Art Museum, St. Louis.—An exhibition of conservative living American painting at the City Art Museum, St. Louis, was significant because it was put on by a committee formed by 63 art patrons in that city, who were weary of seeing nothing but modern art. The show proved to be so popular and successful, that the committee made itself permanent, with the name "Traditional American Art Movement," and 800 residents of St. Louis became sponsors.

Grand Central Art Galleries.—Foremost memorial show for an American painter, was that of 88 paintings by Frederick Judd Waugh, held at Grand Central Art Galleries, New York City, in March. This famous marine painter died in 1940, aged 79 after an exceptionally successful life. It is estimated he sold close to $2,000,000 worth of his paintings; and he won the popular prize at the Carnegie Institute International for five consecutive years. The majority of the paintings in the memorial show were borrowed from private collectors; 38 others were sold, and the show was seen by 15,000 people.

OLD MASTER EXHIBITIONS

The Metropolitan Museum of Art, New York City, inaugurated an outstanding project of sharing its treasures with smaller, less richly-endowed institutions, when it sent more than 150 paintings and other works to the Milwaukee Art Institute as a long-time loan—three to five years. The collection was placed on view *en masse* in January, 1943. It ranges from ancient Egypt to 19th century France.

"Fashion in Headdress," the most splendid display of old masters seen in New York during 1942-43, was put on by Wildenstein in May, with admission charge for the benefit of the New York Infirmary for Women and Children. It comprised 102 selected masterpieces of painting, beginning with the Master of Flemalle (1440) and Bellini, and ranging up to Renoir.

The Jules S. Bache Collection of old masters and other art, was moved from its permanent home 814 Fifth Avenue, New York City, to the Metropolitan Museum for the summer, enabling visitors to view it more easily than in its own location, where a visit requires an appointment. Mr. Bache commissioned a decorator to transform the Metropolitan Museum gallery into an 18th century drawing room, as a background setting for his collection.

Fifty-one superb old masters, collected by J. P. Morgan the elder, were exhibited at Knoedler Galleries, New York City, in November and December, for the benefit of the Citizens Committee for the Army and Navy, and later sold to settle the Morgan estate. Not only are they superb examples by the respective masters; many of the subjects are famous personages with romantic histories. Of 42 paintings exhibited and offered for sale, 38 were sold to public and private collectors.

THEME SHOWS

"Twentieth Century Portraits," which opened at the Museum of Modern Art, New York, the end of 1942, remained to the end of January, 1943, then traveled to several other cities, was among the most exciting exhibitions of many years. It comprised 270 works, mostly paintings, with photographs and sculpture. It strongly contradicted the popular conception of what constitutes a portrait.

"Meet the Artist," composed of self-portraits from 200 living artists, was the feature exhibition for 1943, at the M. H. de Young Memorial Museum, San Francisco, in September.

The California Palace of the Legion of Honor, San Francisco, the same month, held an exhibition of paintings and prints illustrating boxing, wrestling and prize-fighting, which covered nearly a century, ranging from Thomas Eakins to Fletcher Martin.

The Boston Museum of Fine Arts held in November the largest and most comprehensive exhibition of its type to date, "Boston, Its Life and Its People, From the Founding to the Great Fire, and the New Metropolis, 1630-1872." It filled all the Museum's special exhibition galleries and overflowed into other space, and included many fine portraits and other paintings, as well as works in a variety of media. All were original, and some had never before been exhibited.

An exhibition of Famous Women Painters, with a three-centuries range, marked the opening of the Feigl Gallery, New York City, a revival in this country of the Galerie Dra. Feigla of Prague. It opened Oct. 28, Czecho-Slovakian Independence Day, under sponsorship of Minister Plenipotentiary, Dr. Jan Papanek.

"The French Revolution" was the theme of an admirable show at Wildenstein's through December composed of nearly 450 items. They included outstanding paintings and many other kinds of objects, down to the blood-stained book Marat was reading in his bath when stabbed by Charlotte Corday.

EXHIBITIONS OF FOREIGN WORK

A collection of modern Dutch paintings, sent to the United States for the San Francisco and Toronto fairs, embarked on a two-year tour of the country, under the patronage of the Princess Juliana. The circuit began Jan. 6, 1943 at the Albany (N. Y.) Institute of History and Art.

The Museum of Modern Art, New York City, exhibited in April its large collection of art from the southern republics, begun in 1935 and now numbering 293 items, mostly paintings.

"Mexican Art Today" brought 307 oil paintings and other works to the Philadelphia Museum of Art for an April exhibition.

"Nymphs and Satyr," a major

painting by Bouguereau, 12 feet high, was discovered in a New York City warehouse after 42 years of storage. It became a one-picture exhibition at Durand-Ruel Galleries in January, for the benefit of the Fighting French Relief Committee.

REFUGEE ART

Ten masterpieces of Flemish painting, sent from Belgium by the Belgian Government as loans to the great Worcester-Philadelphia exhibition of Flemish art in 1939, were placed on exhibition in the National Gallery of Art, Washington, for the duration. All but one belong to the Royal Museum in Brussels.

MURAL PAINTING

Recorder of Deeds Building, Washington.—A national competition for the mural decoration of the new Recorder of Deeds Building in Washington, D. C. was announced the end of 1942 by the Section of Fine Arts PBA, and seven winners were chosen April 2. The murals illustrate the theme of the contribution of Negroes to the development of the country. Approximately 360 designs were submitted by 124 artists from all sections of the United States. Winners are Herschel Levit, Philadelphia; Maxine Seelbinder, Long Beach, Calif.; Carlos Lopez, Royal Oak, Mich.; Ethel Magafan, Cheyenne, Wyo.; Martyl Schweig, Clayton, Mo.; Austin Mecklem, Woodstock, N. Y., and William Edouard Scott, Chicago, the only Negro artist among the winners.

New Hampshire State House.—Four heroic sized murals by Barry Faulkner, installed in the Senate Chamber of the State House at Concord, N. H., were officially accepted at a New Year's celebration (1943) by Gov. Robert O. Blood. They were a gift to the state by the National Academy, N. Y. C., and were the first award from funds left by Edwin Austin Abbey for such purposes. The panels depict the first commencement at Dartmouth College, 1771; Gen. John Stark going off to the Revolutionary War; Daniel Webster as a boy, reading the Constitution; and the studio of Abbott H. Thayer, famous painter of New Hampshire.

Springfield Mural Contest.—A single non-governmental mural contest was held in the spring by the Springfield (Mass.) Museum of Art. The sum of $4,500 was offered to the artist of the winning design. The jury chosen by the director, Frederick Robinson, aroused widespread discontent, the protest being led by The American Artists Professional League, largest art organization in the United States, with chapters in every state. The League did not question the competence of the jurors, but the fact that they were all "leftists," that the jury was hence not fairly representative, having no artist of the academic or conservative school. The jurors, Margit Varga, William Gropper, Edward Rowan, and Forbes Watson, chose from nearly 100 entries, the design of Pvt. Sante Graziani of Camp Robinson, Ark. His panel depicts home construction, including the arts and music, and general harmony and happiness.

Burbank City Hall.—The Atlantic Charter inspired Hugo Ballin's mural painting for the new Burbank city hall. His panel 22 by 11 feet in dimensions, depicts the Four Freedoms.

United Nations Office.—Four decorative panels glorifying the Four Freedoms, by a Dutch painter, Gerard Hordyk, were given by an anonymous donor to the United Nations Information Office to be installed on the walls of its reception hall in Washington.

MURAL DESTRUCTION

Artists of the Columbus (Ohio) Art League, during the summer, began a fight for the restoration of a mural painting by Emerson Burkhart. It had been painted at a cost of $3,000 in the auditorium of Central High School, Columbus, under auspices of the U. S. Treasury Public Works Administration, but had been calcimined out of sight in 1938 on orders of the principal. The Columbus *Citizen* supported the artists' agitation with almost daily articles for some weeks, and the Civic Committee of Columbus Friends of Fine Arts also petitioned the Board of Education for the restoration of the murals. The affair evoked reports of other government-commissioned murals which had likewise disappeared, among them several in Chicago, Rudolph Weisenborn's four panels in the Crane Technical High School, Edward Millman's frescoes in the Lucy Flower High School, and a 40-foot mosaic by John Stephan in Schurz High School, all of which had been destroyed or removed. The main question raised (but not yet answered) by these controversies, is whether public-owned art, paid for by the Government, and presented to public buildings through the country, can be destroyed at the whim and on the order of one person or small group.

HALL OF ART

The Hall of Art, a commercial gallery, was established in New York City toward the end of 1942, by Max M. Pochapin, director of Art Movement, Inc., a clearing house for paintings *via* department stores. He planned to open branches in the largest stores in 100 cities. Artists whose works are handled are required to accept one-third of their usual prices, and to turn over half the amount of a sale to the Movement. By May, the "Hall of Art" sold 982 paintings, averaging nearly 200 per month. The Movement was publicized in *The Saturday Evening Post* (Aug. 14) in an article called "Pictures for Everybody," lavishly illustrated in color. The misstatements and insinuations in this article about the average 57th street art dealer's gallery aroused New York critics to objections in their respective press columns. Established dealers, as a rule, allow each artist to price his own work; they take only one-third commission on sales. Furthermore, they promote the artist's career in many ways; they send his work to important annuals, competitions, and traveling shows, protect him at auctions, and otherwise aid him.

THE MACY VENTURE

Tomorrow's Masterpieces, Inc. a new selling program, was inaugurated at R. H. Macy's Department Store, New York City, without benefit of such widespread publicity. A year's planning preceded the opening in late summer. It is purposed to make the sale of contemporary American painting and other art a national venture, with 20 stores throughout the country displaying it in attractive new galleries. The art department will remain a fixed part of each store for one year or longer, depending upon its success. Prices are limited to saleable figures—$35 to $350. Lloyd Rollins, a former museum director, is responsible for the selection of paintings, and the range is from conservative to abstract art. Administrators are George N. Kahn and Leonard L. Gussow.

ART AND THE LAW

A lawsuit of interest in the art trade was that won by Mrs. Bessie Kelly, New York dealer, in the Supreme Court, New York City, on Feb. 10, 1943, whereby she received $1,200 she claimed due her from the Mortimer Brandt Gallery. She testified that, several years ago, she introduced to Brandt, the Countess Beatrice Vigano, and that in May 1940, Brandt sold to the Boston Museum of Fine Arts, a portrait of a lady by Piero della Francesca, belonging to the Countess, for the sum of $60,000 for which she paid him a commission. The verdict appeared to establish that a dealer who introduces an owner of a painting to another dealer, is entitled to share in any commission the second dealer may receive by subsequently selling the painting, even though no written or oral agreement was made between dealers.

ART SALES AND AUCTION PRICES

The Parke-Bernet Galleries, New York City, the nation's largest auction firm, reported at the end of the 1942-43 season that it had grossed $3,611,847, the second highest total in the past decade. The firm attributed this to "general world wide conditions including shortages in supply," carrying the average of prices to new high levels. There were 90 sales, with 174 auction sessions. The highest total was $266,207 secured by the art collection of Mr. and Mrs. Charles E. F. McCann, New York. Top individual prices were made by paintings: Frans Hals' portrait of Rev. Caspar Sibelius, preacher at Deventer, $30,000; Renoir's "Fleur et Chats" $24,000; Manet's "Lilas Blancs dans un Vase de Verre" $18,000; Velasquez "The Vintage," $15,000; two by Renoir, "Mosquee a Alger" $12,500, and "Anemones" $10,500; Rembrandt's small panel, head of an old man, $10,000.

Gimbel Brothers sales of art property amounted to $44,225,000, second highest total in the three years the store has been selling art. It included sales in the Kende Galleries auction department of Gimbel's in the Jay Gould Mansion, and the non-auction sales of art on Gimbel's 5th floor.

The season 1943-44 began auspiciously toward the end of the year. High prices paid for several paintings by Parke-Bernet Galleries in November included $15,000 for David's "Citoyenne Crouzet," $10,200 for Renoir's "Femme a l'Ombrelle," and $7,000 for Daumier's "Les Avocats."

Artists for Victory, Inc. was successful in making sales from the mammoth exhibition held at the Metropolitan Museum 1942-43 (mentioned in THE AMERICAN YEAR BOOK for 1942). Total sales amounted to $12,680, of which nearly three-fourths, $8,560, went for 20 oil paintings, the remainder for watercolors, sculpture, and prints.

PROTECTION AND SALVAGE OF EUROPE'S ART

BY FLORENCE S. BERRYMAN
THE AMERICAN FEDERATION OF ARTS

FORMATION OF AMERICAN COUNCIL'S COMMITTEE

Destruction of Europe's cultural heritage and wholesale looting of art and other property by the Germans during the present war, has surpassed any comparable vandalism in an earlier period. The Nazis are carrying out, on a colossal scale, what their predecessors did during the years 1914-18. It is estimated that after the First World War, only 50 per cent of the loot was returned to its legitimate owners, as there was no organized effort to carry through such restitution.

The American Council of Learned Societies, foreseeing a far more chaotic situation at the end of the present conflict, formed in January 1943, a Committee for the Protection of Cultural Treasures in War Areas, composed of leading authorities in the field of art—archaeologists, museum directors, historians, and others. They serve without compensation. The Committee's objective was to call the attention of the Government to the necessity of planning now for cultural salvage, and to place at the Government's disposal the aid of those best qualified to advise. Approximately 1,000 such experts have volunteered their services.

The Committee, with headquarters at the Metropolitan Museum of Art, New York City, a grant from the Rockefeller Foundation, and the collaboration of the Frick Art Reference Library, the largest of its kind, began to assemble informative material and to locate various sources created by experienced individuals, travelers, refugees and scholars in all fields covered.

GOVERNMENT COMMISSION APPOINTED

In August, the President of the United States, acting upon the suggestion of Chief Justice Stone, appointed through the Secretary of State, an American Commission for the Protection and Salvage of Artistic and Historic Monuments in Europe. This official Commission was not intended to supersede the earlier Committee, but to provide governmental authority and sanction. Five of the Commission's eight members are also serving on the Council's Committee.

Organization of the Government's Commission was completed at a meeting Aug. 25 in the National Gallery of Art, Washington, which was made headquarters. Chairman is Associate Justice Owen J. Roberts of the U. S. Supreme Court, who understands the legal problems with which the Commission must deal; David E. Finley, director, and Huntington Cairns, secretary, of the National Gallery, are vice-chairman and secretary, respectively, of the Commission. Other members are William Bell Dinsmoor, president of Archaeological Institute of America, head of Columbia University's Department of History, and chairman of the Council's Committee for the Protection of Cultural Treasures in War Areas; Francis H. Taylor, director of the Metropolitan Museum of Art, New York City; Paul J. Sachs, professor of art at Harvard University; Archibald MacLeish, librarian of Congress, all of whom, with Mr. Finley, are members of the Council's Committee; and Herbert H. Lehman, Director of Foreign Relief and Rehabilitation Operations.

AIMS OF THE COMMISSION

The Commission's immediate objectives are first, to work with the appropriate branches of the Army, to furnish to the General Staff museum officials, scientists, librarians, archivists, and art historians in order that, so far as is consistent with military necessity, works of cultural value may be protected in countries occupied by the forces of the United Nations; second, to compile from all available sources, and with the assistance of refugee scholars, lists of property appropriated by the Axis.

U. S. ARMY COOPERATION

Early in 1943 the Secretary of War brought to the attention of the General Staff, the necessity for establishing a branch in the Army to care for such matters. Major General J. H. Hilldring, Chief of the Civil Affairs Division of the War Department, became responsible for providing trained personnel and necessary directives. During the summer, such men were commissioned by the Army as civil affairs officers, to participate in governing conquered and other occupied countries. They had been recruited largely upon recommendation of the Council's Committee and the Harvard Defense Group.

By the end of summer, 12 or more trained museum and monument officers had arrived overseas. Other candidates were being given a four-months course at the School of Military Government, University of Virginia at Charlottesville. Candidates had to be from 38 to 55 years of age, and were required to have knowledge of foreign conditions.

That the U. S. Army manifests a deep sense of responsibility, and has taken the utmost precautions to safeguard ecclesiastical and civic monuments, was demonstrated in the bombing of Rome and in General Eisenhower's specific orders during the invasion of Sicily and Italy.

To facilitate the work, the Council's Committee prepared maps showing the location of artistic and historic objects in the path of our invading armies. At the beginning of autumn, more than 150 such maps had been sent to allied forces' headquarters.

While the American Council of Learned Societies' members are preparing basic data, the Government Commission's principal functions will be in the armistice period, concerned with the restitution of property looted by the enemy.

EXTENT OF NAZI LOOTING OF ART

It is known that the Nazis have carried off virtually all of the movable works of art in private possession, the monumental looting operations being effected systematically by a corps of Gestapo and S.S. Troops under command of Joachim von Ribbentrop and the Special Cultural Branch of the German Foreign Office. Our Board of Economic Warfare has placed an estimated value of more than $36,000,000,000 on property stolen by the Nazis, of which between $1,500,000,000 and $2,000,000,000 accounts for movable art property (not including damage and vandalism to irreplaceable public and ecclesiastical monuments). Poland and Russia have suffered the greatest destruction of art objects and other property; western European nations have been subjected to more "scientific" looting.

In addition to these thefts, extensive categories of public collections have been "transferred for reasons of mutual cultural exchange." For example, under the direction of Dr. Hans Posse, director of the Gemaeldegalerie in Dresden, Dutch and Flemish masterpieces, the glory of the Rijksmuseum in Amsterdam, are reported to have been "exchanged" for German 19th century paintings from German museums. This and innumerable other instances of participation in the sinister looting operations by German scholars and scientists would appear to refute the claim that the "innocent German people" are not involved in the crimes of the Nazis.

An elaborate structure of false legality has masked the Nazis' confiscation of public and semi-public property, while simultaneously they have destroyed with typical German efficiency, all inventories and card catalogues which could in the future substantiate claims of ownership. Other sources exist, however, proving ownership and location of objects of art prior to 1937, among them the detailed guidebooks of the late Carl Baedeker.

PATTERN OF GERMAN THEFT

These gigantic thefts have been carried out for several reasons. Foremost appears to be enrichment of existing German museums of all types, and creation of new museums. At Linz, Austria, for example, Hitler has built one of the world's greatest museums to commemorate his mother, and is filling it with the fruits of Nazi robbery. A master plan for this sentimental project envisioned the installation therein not only of the greatest works of art from galleries of Europe and America, but also from colonial empires and the Reich itself. Already Vienna's famous galleries and private collections have yielded a great portion of their masterpieces to Hitler's museum.

A second objective of art confiscations is the enrichment of Nazi party leaders. Hitler, Goering and Himmler have surpassed all others to date, as collectors on a grand scale. Their methods of acquisition are revealed in such press reports as that in February, 1943, from the Belgian Information Center, which disclosed that one of the world's greatest and rarest religious masterpieces, the altarpiece "Adoration of the Lamb" by Hubert and Jan Van Eyck, had been presented to Goering as a birthday gift by an official of the Petain government. Originally painted for, and still owned by the Cathedral of St. Bavon in Ghent, and regarded as one of Belgium's outstanding treasures, this early 15th century polyptych had been sent to France for safekeeping in the Chateau de Pau, when the Nazis invaded Belgium.

The third objective of these art thefts is to insure plentiful foreign exchange for the Reich. Free markets of neutral countries, in Europe, Asia Minor, Africa and South America will be the scene of transactions, in which objects of great value, held probably under fictitious names, will be offered for sale primarily to collectors and institutions of Great Britain and the western hemisphere.

PROPOSALS TO BLOCK SALES OF STOLEN PROPERTY

The United Nations have already taken the first step to forestall the Germans' bid to dominate the art market when peace is declared. A common declaration early in 1943 stated that all property which changed hands during the period of Axis occupation is suspect, and that all transactions will be considered invalid until clear title is given and proof established that the sale was not made under duress.

At its organization meeting on August 25, Justice Roberts, chairman of the Government's Commission for the Protection and Salvage of Artistic and Historic Monuments, said that it is prepared to urge that the armistice terms provide for the restitution of such looted property to the lawful owners, or restitution in kind where the property is destroyed.

Among measures suggested to defeat the Germans' plans for future prosperity from stolen goods are: a quarantine placed upon all works of art leaving Europe, with shipments forbidden until rightful ownership is proved; and a definite period established after the armistice is signed, during which every possessor of a work of art purchased between Nazi invasion and evacuation dates in the respective countries, must declare his purchases giving all details and must return same to the authorities, with failure to do so punishable by a heavy fine, in addition to the maximum penalty for a receiver of stolen goods. Many other suggestions have been made, with details for putting them into effect.

DANGER OF DESTRUCTION OF LOOTED ART

Worse than the colossal confiscation which has transferred practically the whole of Europe's artistic heritage to Germany, is the menace of further destruction, should the Nazis carry out Hitler's threat to pull Europe down with him in the event of his defeat. This is not a Nazi innovation. The Germans in 1918 destroyed a certain percentage of stolen treasures. Furthermore, Poland has already been completely pillaged and her historic shrines and churches have been systematically burned and demolished by the enemy, in order to wipe out the symbols of her national pride. Concerning such a situation, Francis H. Taylor of the Government Commission said,

"Payment in cash cannot satisfy the pride of a great people. There must also be payment in kind. Future generations of Polish citizens are entitled to have restored to them not only the objects stolen by the Nazis at this time, but all works of Polish origin which in the past have found their way into the princely galleries and collections of the Germanic States from the time of Augustus the Strong. What is true of Poland becomes pattern and text for every devastated country."

OTHER DEVELOPMENTS

Other significant incidents bearing upon this situation, are the Federal Reserve's request of all persons in the United States who have possessions outside this country to prepare and file a list of such property, which records will be of assistance in the hunt for looted art; and the action of delegates to the United Nations Relief and Rehabilitation Administration, which convened in Atlantic City in November. Their suggestion that means be provided whereby Germany's loot could be sifted for stolen cultural treasures and productive machinery, was made in the form of a statement to the press, by the Dutch delegation headed by D. Crena de Iongh, with whom were associated delegates of Belgium, Czecho-Slovakia, the French Committee, Greece, Luxembourg, Norway, Poland and Yugoslavia.

PROSPECTS FOR RECOVERY

Members of the American Council's Committee and the Government's Commission, and other experts, have expressed the opinion that barring destruction, well-known museum pieces and other important works which are a matter of record, can be restored eventually to their real owners, but that only a small percentage of privately owned treasures and family heirlooms can be recovered. These experts are also aware that the Government's Commission and similar organizations set up in other countries, have "grave and momentous problems," with which the United Nation's will be concerned for decades to come; but that it is a task which must be undertaken for moral reasons as well as to preserve for posterity, "the fruits of five thousand years of human experience and imagination."

SCULPTURE

By Rose V. S. Berry
Art Critic and Writer

GENERAL

The year 1943 has introduced, and in some degree, brought permanence to new and startling ideas in American sculpture. It has made manifest a parting of the ways: a forsaking of the prevalence of long accepted thought and manner for something more daring and spirited. There is an increasing substitution of arranged volume and adjusted balance for the classical canons of Greek art. There is growing appreciation for mediaeval religious expressionism. The sculptors are turning with scholarly regard toward ancient sculpture that comes by way of archaelogy, ethnology, and anthropology, especially when the two latter subjects pertain to primitive and savage peoples. In truth, the art of today is almost an hourly statement of emotional experience, expressed in terms so old that they are new.

If they ever knew it, most Americans have forgotten that our sculpture does not stem from ancient sources, but from the sleek, cold, decadent art of Canova and Thorwaldsen, as Hiram Powers and Thomas Crawford found their work in Rome and Florence. Both men worked long in Italy.

Italy's spell over American sculpture persisted until Philadelphia's Centennial Exposition (1876) when the American artists discovered for themselves that they were in no way abreast of the times. It was not until they found that, though they had defied classical trends,—the Frenchmen—Rude, Barye, and Rodin were winning widespread approval, that Americans ventured into an independent attitude for themselves.

All creative artists have been intrigued by speed, space, and movement, the latter having throughout the ages eluded the men who expressed themselves by fixed form. In addition to these factors in current composition there came to the air-minded people the extraordinary beauty of the objects that stretched up into the air to function, a sky-line pierced by towering buildings, the mechanical devices of slender, lifting cranes with their swinging hoists, scoops, and shovels. There were also the thinner-lined steel structures, and the more temporary scaffolding, that made irresistible pattern for carved reliefs. Merging with all this there came a strange regard for things, stuff, and isolated mechanical parts as they took on separate and distinct form. From this it is but a step to *montage* and *collage* which have related themselves irrevocably to modern art and composition.

EXHIBITIONS OF CHURCH SCULPTURE

The carry-over exhibition of Artists for Victory ushered in the season of 1943. This was quickly followed by an unusual show of far reaching interest. The National Sculpture Society and the Architectural League combined their different arts to present an exhibition of Church Sculpture. Such an exhibition to achieve success must relate an evident and harmonious kindredship in line, mass, and setting, an aim not readily attained. Architectural restrictions are as binding as the rule of a sonnet, yet, in this association—not one for which each art was created, but one which the accident of a temporary association consigned them—the ensemble was an artistic success which attracted an unexpected acclaim. The work of 100 sculptors, placed in the proper architectural setting, established for the layman's inspection an ecclesiastical grouping, wholly religious in character, devoutly, and sincerely emotional, but so well placed that it escaped any maudling sentimentality. The critics agreed, too, that one of the surprising elements consisted in the abundance of originality and variety displayed.

It is surprising to the uninitiated to see how quickly the style of an artist binds him to certain definite subjects. This was made evident in the work of Lee Lawrie and John Angel, both of whom are capable of setting a type and standard in religious compositions—themes to which not every sculptor turns. John Angel was represented by many angel figures, and an "Adoration of the Magi," which has the spirit of Renaissance ecclesiastical art. A "Last Supper" relief, which is installed in the East Liberty Church, in Pittsburgh, was considered by many the finest of several versions included in the show. Lee Lawrie's "Tomb of Bertram Grosvenor Goodhue" possesses an impressive purity and serenity of design. His "Reredos" from the St. Thomas Church (New York) has a beauty totally unexpected in an American-modern. Among less traditional compositions were: "The Five Wise and Five Foolish Virgins" by Henry Kreis. The "Shrine of the Americas" reveals the daring and originality of Frederick Allen Williams.

Biblical figures, the Madonnas with their Christ-babes; large and small figures of the Apostles and Saints; many subjects of the Christ-theme constituted the major subject matter. Works inspired by acts of mercy, miracles, sermons, and brief texts were numerous. A grouped "St. John and St. Mary," by Carl L. Schmitz; "St. John the Evangelist," by Joseph Coletti; a "Madonna and Child" expressing the sombre pathos of Warren Wheelock, were all spiritual in their appeal. Raoul Josset's "Seated Madonna," caressing her child, was outstanding, since it gave an unexpected variation to a familiar subject. An unusually grave head, with a countenance that portrayed a deeply contemplative mood, titled "Christ in the Gethsemane Garden," will long remain in the memory of the visitor, making its sculptor, Joseph Kiselewski, also unforgettable. Under the adverse conditions of today, greatly complicated by enemy intrigue and internal unrest, and by a long brooding over wrongs most difficult to right, the "Head of Christ" in black granite, by William Zorach, casts some kind of a spell—an ominous forecast—it was easily the exhibition's masterpiece.

ALEXANDER CALDER'S MOBILES

The non-subjective abstractions, or unreal realities, of this artist received their largest American showing last April (1943) when they occupied a whole floor, the arcade and garden of the Modern Museum of Art, in New York. These Mobiles, Structures, Abstractions, or "Smithy Sculpture," as they have been called will never cease to be pleasurable puzzles to some museum visitors; for others they are joyous concoctions as undisturbing as they are non-argumentative. For those who have not seen the Mobiles their fascination is incredible. They have height, or the length that makes it, and breadth, and thickness. These are the qualities of sculpture. Instead of being presented in a volume of clay, bronze, or marble, they are held together in space, taking their length, breadth, and thickness, from an assemblage of motifs which are suspended from the ceiling by invisible wires, and the motifs become a unit in accordance with their grouping. They are of many mediums: wood, paper, glass, metal such as copper, tin, brass, and sheet iron. As to motif-forms, they are hollow triangles and circular discs, the latter often punctured to obtain added pattern. Crescents, asymmetrical angles, cones, fluted fans, tubes, round-handled canes, thin linear metal sections shaped to the curved-line-of-beauty, and flattened bands of metal thrown into the large reverse curves of the letter S, are opposed to ballooning puffs, some tear and some pear-shaped, while metal sheets are heated into the form of plowshares.

This list is fragmentary; dozens of possibilities could modify each motif in its shaping. One other element is fundamental in the Mobile: the depth of suspension is different for each motif, this makes the horizontal base line as variable as New York's skyline. In addition to all this variety, a slow, revolving movement is secured by controlled air currents. This slow turning brings each motif into a position—for the observer—of interference with the perfect outline of some other motif, consequently there is some change in the shape and appearance of each motif all the while it is studied.

It might seem that little more could be expected from these strange compositions, there are however, two by-products as delightful as they are unexpected. Each motif may have been given a color apart from that of its medium. Some of the color is flat, solid and unshaded; some is opaque, and other motifs may by their nature make their color transparent. The whole story of the Mobile's effect changes with the color-play as the swinging or revolving motifs encroach upon the orbit of their neighbors. The movement—motif by motif—is similar to an eclipse. Therefore, there is a darkening of the color as the surface-junction reaches its greatest area, then in the rest of the passing, the color-effect is a shimmering reversal of the first half of the artistic contact. This merging and mingling can be the miracle of the painter's palette as he mixes his colors.

The second by-product comes from clever lighting which is provided for the Mobile's exhibition, and consists of the shadows it may cast, on four walls, if it hangs from the center of the ceiling. Shadow appreciation is an aesthetic subtlety derived from Oriental flower and figure arrangement. In itself, the Mobile, by way of movement, becomes a drama and each motif a character restricted in where it goes and with what it comes in contact, but what takes place is somehow more factual than the composition. There are four shadow demonstrations, one on each of four walls, each showing different silhouettes every second. The changing marvel continues until the whole circuit is made; then, according to the light of day, or night, or the steadier glow of artificial lighting and the propelling air current, the creative process begins again. In the minds of critics attuned to the immediate present these Mobiles of Alexander Calder, and Walt Disney's "Fantasia" are notable departures from century-old tradition that point the way for future achievement.

ONE-MAN EXHIBITIONS

Dorothea Greenbaum exhibited animals, figures in the round, and portrait heads at the Lawrence Art Museum, Williams College. Charlotte Meyer was given a one-man-show at the Crocker Art Gallery, Sacramento, Calif. Bernard Sopher was given a one-man-show at the City Art Museum, St. Louis. Doris Caesar held a one-man exhibition at the Bucholz Galleries, New York.

Seymour Lipton exhibited sculpture of unusual quality in 18 wood figures, bearing factual titles, at Galerie St. Etienne, New York. Gladys Lewis Bush was given a one-man-show at Dalzell Hatfield Galleries, Los Angeles. A portrait of Mark Twain interested many visitors and drew the praise of Madame Clara Clemens Gabrilowitsch, the only living daughter of America's famous humorist.

Irma Rothstein's exhibition at the Artists' Gallery, N. Y., was interesting not only for its merit, but for her experiments in several mediums. The work—all destined for bronze or marble—was produced in glazed ceramics, terra cotta which she fired, in plaster, and cast stone.

William Zorach this season is holding a one-man-show for the first time in 14 years. The collection is much to his credit, and most of the best examples—according to the catalogue—are borrowed from their owners, museums, and private collections.

John Rood, who has been exhibiting in New York, from his midwestern home, for several seasons, has won new laurels in his work shown at the Passedoit Gallery. Some of the pieces are highly decorative; opposed to these are others of severe simplicity. An example of the latter is "The Woman Praying," whose simple dignity recalls the mastery of the late Berlach. "The Silent People," a monumental piece, is based upon a theme analogous to Grant Wood's American Gothic. Opposed to such conceptions, is the series of six "Romantic Heads" carved from satiny fruit-woods to all of which the artist imparts an animated sense of being. De Creeft's superb portrait of the late Sergei Rachmaninoff, done in lead, is of special interest, and takes first place in a comparison with the late Marsden Hartley's portrait by Jacques Lipchitz, or Jo Davidson's portrait bust of Vice President Wallace. One acquainted with the style of Wheeler Williams would know what to anticipate in his portrait bust of Katherine Cornell.

GROUP EXHIBITIONS

Alexander Corazzo and Gretchen Schoeninger were given an exhibition by the University of New Mexico, at Albuquerque. Their work consisted of sculpture and interesting wire objects. Moholy-Nagy, associated with Chicago's School of Design, in company with seven other Chicago artists, exhibited a plexi-glass construction in space. The other sculptor to attract interest was Laura Slobe, whose ingeniously devised, brightly painted plaster sculpture bore such scientific titles as: "Space Modulation—1941," continuing to something more suggestive in titled form called "Unfolding." De Creeft, Weschter, Archipenko, the Negro primitive William Edmonton, Raoul Hague, and Alexander Stoller combined their work to make an interesting show at the Dikran Kelekian Gallery.

American Sculpture—Our Time since Rodin, was the theme of an interesting collection of work exhibited at the Buchholz Gallery. The group exhibited ranged from a production of temporary "classic character" to subjects that would bring a chuckle. There were several examples by John Flanagan; a mother and child by Charles Cutler; a superb granite head by William Zorach; a fine pair of heads by De Creeft; an excellent example of Robert Laurent's work; there were two figures by Gross, and some small pieces by Lachaise and Dioda. Some of the more modern, certainly more daring subjects were those of Willard; a large stone abstraction by George L. K. Morris, a Dutch Fisherman by Archipenko, which was all line and no head in blue terra cotta. There were amusing ideas by Steig, an interesting Calder, and an early and late Robus.

ZADKINE

Zadkine's exhibition at the Valentine Galleries was composed of his work of the last two years. Like many of America's gifted foreign-born artists, Zadkine denies himself nothing in the way of creative experiments. He puts his subjects in many mediums and relates them to traditional types, or modern French painting, and even to the ornamental variety. The marble male torso, two of the heads, and the great hand cut in marble, demonstrate the phases of his interest. A brownstone "Tatooed Dreamer," and an ebony "Pomona," a female torso with an incised hand holding an apple on the chest, reveal the versatility of his production.

HESKETH

Apart from the merit of the collection as good sculpture, the technical craftsmanship displayed in the one-man Hesketh show, at the Farargil Galleries, in New York, called forth the qualifying statement, "extraordinary work for a woman." Critics say of some of it, that it is "more visionary than visual." She carves directly on wood or stone without preliminary drawings. Her sculpture was in Tennessee marble, Italian olive-wood, and onyx. She sees possibilities in the new plastic materials used by farsighted engineers.

PRIZES, AWARDS AND SCHOLARSHIPS

The 51st Annual Exhibition of the Women Artists gave sculpture unusual prominence. Mediums ranged from a large ceramic piece by Lilian Swann Saarinen to a waxed splinter of driftwood, by Florence Millar. Other unusual treatments include heads by Arline Wingate, Challis Walker, and Minna Harkavy; a marble "Shire Mare and Colt" group by Genevieve Karr Hamlin, and two exceedingly daring compositions, one, by Margaret B. Kane, and the other, which brought the first prize to Dina Melicov.

The National Academy exhibited 72 pieces of sculpture, three of which were honored: The Ellen Speyer Memorial, went to Mary Rand Birch for an animal subject, "De Profundus." The Watrous Gold Medal, went to Marion Sanford for a figure, which strangely enough also bore the title "De Profundus." The Helen Foster Barnett Prize was awarded to Walter Addison for his "Markhor." The sculpture jury consisted of John Flanagan and James Earle Fraser. Edward McCarten and Paul Jennewein headed the jury of selection.

The Pennsylvania Academy of Fine Arts confined its exhibition to works selected and invited by Reginald Marsh and Paul Manship. The first sculpture prize went to Henry Kreis' "Birth of a Nation," a large model in relief for Philadelphia's Fairmont Park. The Stewardson and Stimson sculpture prizes were awarded by the Pennsylvania Academy to Paul Anthony Greenwood and Amelie Zell.

The 54th American Annual of the Chicago Art Institute, appointed Henry Kreis to invite the sculpture section to be exhibited. The first prize was awarded to Boris Gilbertson, of Wisconsin, for his "Figure of a Bull" done in limestone.

Carl Milles, Swedish-born American sculptor, at Cranbrook, Mich. was given the Merit Medal of 1943, and a cash prize of $1,000 by the American Academy of Arts and Letters. Other awards went to Gertrude Lathrope and Bruce Moore. The American Artists and Professional League, awarded Alfred D. Lenz a prize for his secret method of casting precious metals, and their Gold Medal to Herbert Adams. The Women's Painters and Sculptors prizes went to: Gertrude Lathrope, Marion Sanford, Dina Melicov, and Honorable Mention to Clara Shainness. The Guggenheim sculpture fellowships were awarded to Oronzo Maldarelli and Donald Harcourt.

AMERICAN PATRIOTS IN SCULPTURE

The year 1943 was notable for its projects and suggested plans. The National Sculpture Society assembled a collection which it called American Patriots in Sculpture. As history the exhibition covers the period from the Revolutionary War to 1941; in artistic scope it ranges from monuments to medals—the subject presented, of course, by way of beautifully enlarged photographs, otherwise its bringing-together would have been impossible. After it closed in New

York, it began a circuit of the larger cities, colleges, and the several cantonments of the Armed Forces. The historical aspect of the show can not be too highly valued; the human interest is enormous.

LOUISE NEVELSON

Louise Nevelson's exhibitions are reminiscent of the Parisian side-walk cafés that Elie Nadelman used to exhibit—figures, actually caricatures, including the wire-legged tables from which they ate, and the horrid little chairs upon which they sat. The work of Miss Nevelson is put in two classes: 1. "The Circus," consisting of her delightful animals made from all kinds of wartime scrap material; 2. "The Crowd Outside," the you-and-me onlookers, and these she ties up with "The Clown" in the center of the world.

WAR THEMES

The Wildenstein Galleries have invited the American artists to submit models based upon the theme: This Is Our War. They have suggested the following subjects: War Ideology; The Machine in War; Men and Women in War; and Behind the Front Line. The plan is even more interesting considering the fact that the "anecdote" or something to say is supposedly on the way out.

THE FOUR FREEDOMS IN SCULPTURE

In accordance with the desire of President Roosevelt the Four Freedoms are to be given permanent form in sculpture. The artist appointed to do the work is Walter Russell of New York. When the composition is in its final form the plans for its distribution will be carried out. The subject will be cast and carved into many bronze and marble replicas—a replica being a reproduction of the original composition recognized and signed as such by the original artist. These replicas will be sent to the President, and he, in turn will relay them to the United Nations and to public places in the larger American cities. Copies, made later in stone, or plastics, will be provided for the general purchaser. A large statue of the theme will be done in marble, and a suitable site for its placement will be sought in Washington, D. C. Private financing for the undertaking has been arranged. The idea of the President is that "through the medium of the arts a far greater number of people can be brought to understand the concept of The Four Freedoms," an ideal presented to the world for the first time in the Atlantic Charter.

GRAVE CROSSES FOR THE FALLEN IN WAR

It is the general impression in this country that the Four Freedoms constitute what we fight for, consequently, in sculpture, they would be symbolic of that for which we contend. A much humbler type of sculpture will perpetuate the memory of those who have done the fighting and the dying.

For Christians everywhere the cross is the emblem of religion and the symbol of sorrow and suffering. For centuries in its several-fold mission it has followed in the wake of war. It is beginning to make its presence felt in this war. Plot beside plot, on gently sloping hill-sides rising above Pearl Harbor, thousands of low white crosses mark the graves of those brave men and boys who died in America's greatest defeat. In lesser rows these crosses are being planted on the islands of the Pacific. Remotely, and to be ever alone, in dense jungles where visibility is 15 feet in any direction, one may come upon a green cross, today; a cross that marks the spot where an American Sailor, Soldier, Marine, Aviator — Pilot, or Bombardier, has fallen upon his final sleep, which he will take alone—removed by half the earth from his homeland. These crosses do not come from marble quarries. They are felled from the immediate timber stand, and they bear the color of a living, growing tree. As grave-markers they are the handiwork of the buddie who survived; the buddie who devoted the hours he spent in a nearby fox-hole to cutting and planting his tribute to a friend who had made the supreme sacrifice. He was not a craftsman; he hadn't a craftsman's tools.

The upright beam he set in the earth tapered as the small tree grew, and the cross-beam sagged for the same reason: one end was larger and heavier than the other. A word-picture portrays a homely thing, ungainly in its appearance but hallowed by its awkwardness.

Aluminum plaques, flattened from messkits, are the nameplates on these crosses. It is no master of lettering, no caligraphic artist, that inscribes the name or the simple epitaph—it is the boy left alive in the neighboring fox-hole, who scratches the message. His whole endeavor is to make it legible, and his blunted nail was not a reliable pen.

The cross is not always the bare tree-trunk. Draped about one, that was described, was a rosary, battered, rusted, and weathered. A Star of David, fashioned from bamboo, marked the grave of a Jew. A bent airplane propeller singles out the grave of a Flier who died in a flaming crash. When time has permitted more substantial crosses stand, such an one is a beautiful piece of mahogany. Other crosses have involved hours of patient work with improvised tools, fashioned and shaped from shell casings.

It is more than passing strange that these last tributes should not only fulfill their function but add to their significance by their montage, a glove topping the upright beam; a dented helmet hanging from the cross-bar; a rifle with its bent bayonet bound to the cross, over which a torn American flag is draped from the horizontal flag, constituted a benediction as final as if one heard a celestial Amen, or were to listen eternally to the last bugle notes of Taps.

ARCHITECTURE

By Nathaniel Cortlandt Curtis
Professor, Tulane University

CONSTRUCTION VOLUME

Construction in the United States of every description tapered off during the latter half of 1943; it is actually forecast to decline to less than one-third of the volume reported during the corresponding period of the year before. Government building dollars assigned to construction projects were in the neighborhood of $3,500,000,000 for the first half of the year—an amount to be cut by one-half, it is reported, for the second half. Meanwhile there was an indicated drop in private building below $700,000,000. The war-construction program is practically completed.

Due to the almost universal preoccupation of nations with war necessities, architecture, considered from the point of view of its normal and more permanent aspects as compared with emergency construction and building tied in with the war effort, remained dormant throughout the world. This situation undoubtedly indicates a deficiency to be estimated in terms of a vast and accumulating residue.

Volume of construction has indeed been large, but diversity of building types, as will be further noted, has been correspondingly restricted. Aside from these limitations, the year 1943 will be remembered for two developments, or rather advances in building technique, which will undoubtedly have an effect on building design in future years.

DEVELOPMENTS IN BUILDING TECHNIQUE

The developments referred to are—a greatly extended employment over the year 1942 of—(a) new applications of wood (architecturally, as new design procedures and structurally, as assemblies of wholly new patterns) and (b) revolutionary design (for the U.S., at least) of reinforced concrete frameworks and roof-coverings.

With the exception of Sullivan, "founder of a new theory," and Wright, "founder of an organic architecture," few independent contributions to the progressive movement in architecture have originated in the United States. Our national achievements in this field have rather been along the line of inventions and improvements applied to the equipment of buildings such as improved scientific artificial lighting, air-conditioning, building sanitation, heating assemblies (yet our British cousins first thought of radiant panel-heating), and the manufacture of synthetic products applied to building—plastics and built-up panel boards, laminated wood, and the like; and in volume of product.

APPLICATION OF WOOD TO BUILDING

One achievement, however, stands out and is perhaps worthy of receiving a place among the more substantial contributions to modern architectural thought. This achievement, cited above (which has come to fruition in the year 1943 and may as well be ascribed to that year), overtops all other items that may be mentioned because it relates directly to planning and the enclosure of space—accepted bases in any definition of building art. Perhaps it is no exaggeration to say that the new applications of wood to building design which the genius of certain of our architects is discovering promises to be our most important recent contribution to Modern Architecture.

Through such agencies as the Forest Products Laboratory and manufacturers' research laboratories, scientists and inventors have studied the properties of wood and adhesives combined to form beams, panels, and trusses and have thoroughly tested the behavior of these elements applied to the framework of structures. It has remained for architects and engineers to take the standard products provided and recommended and by assembling them in novel ways to devise new and wholly original means for the enclosure of space, thereby essentially advancing the progress of architecture in our day. Outstanding examples of structures in this field may be seen in the work of Skidmore, Owings and Merrill, architects at the Great Lakes Naval Training Station; of William Wilson Wurster—Office Building for the Schukl Canning Factory, Sunnyvale, Calif.; and the impressive and much publicized timber Blimp-Hangers for the Navy by the Bureau of Yards and Docks.

USE OF REINFORCED CONCRETE

The year 1943 saw a wider acceptance by American engineers and architects of (hitherto almost neglected), modern theory of re-inforced concrete, pre-stressed, pre-cast beams and slabs, and theory of re-inforced concrete thin shells.

Pre-stressing is effected by employing high yield-point wire reinforcement with the object of eliminating tensile stresses in the concrete. The advantages gained are lighter members, 90 per cent less steel than structural steel members of equal load capacity and a reduction of supporting trusses, beams and columns, as compared with ordinary construction.

Investigations leading to marked improvements in concrete technology have been pursued for a number of years in Europe and the results have been practically applied to many structures of an architectural and engineering nature. Similar techniques have recently been applied to some of the largest American factory buildings. Ribbed concrete arch-roof construction is said to effect a saving of 40 per cent in steel over ordinary girder, beam, and flat slab construction for superstructures. Thus parabolic shells of 60-foot span and three-inch thickness of shell as thin arch slabs in relatively long roof spans, supported at intervals by transverse ribs, have been employed by Albert Kahn and Company, architects and engineers, in some of their largest war-plants.

HOUSING

In the field of housing there have been few advances made in 1943 over 1942. The John B. Pierce "basic house-plan" (the special merit of which is found in the excellent relation of living room to dining room area to kitchen to storeroom), seems still to be the best plan for small single-story houses of two or three bedrooms, and if there have been any advances they have simply been the result of better siting of units and in more and better planned community service buildings, such as schools, shops, community centers, etc., and from efforts to relieve the monotony of overall aspect incident to unavoidable repetitions by making better use of the advantages offered by terrain; more use of curved roadways, smaller open-end courts, and the like. Abundant planting, grass, and especially trees will in time do much to save many a project otherwise desperately uninviting and monotonous. The country's largest war-housing project, thrown open to occupancy this year, is Van Port City war housing project, Portland, Ore., for Kaiser, Wolff and Phillips, architects; De Young and Moscowitz, site plan consultants.

Prefabricators, naturally most promising competitors in the housing field, have striven for more backing in the Federal housing program of the year, but without making a great deal of headway. Contractors have sought to resist these efforts on the part of the prefabricators, claiming that it is cheaper to build a house at the site; that it takes three times as many box cars to ship prefabricated units over loose materials: that factory prefabrication would eliminate the use of masonry materials. In this connection it is worth noting that small houses in England are built almost exclusively of brick. These observations are submitted without argument on their merits. Only time can tell what per cent prefabrication of houses will be the most economically sound procedure.

MOBILE HOUSES

The House Trailer industry, which was able to market about 35,000 trailers last year by way of the NHA, was this year faced with virtual extinction because the Housing Authority had come to the conclusion that war-workers need more spacious accommodations, even closing the door to private sales. Borrowing something from the time-honored privileges and freedoms implied in the house-boat idea, the Goodyear Company has perfected a sort of land-cruiser described as a "Pack-up House"; a mobile house, equipped with built-in bunks, furniture, and fittings, to accommodate a family of four—modern, attractive and comfortable in appearance; on the assumption that after the war, "Americans, who like to wander, will find out how easy it can be to take their houses along."

POST-WAR PLANNING

Since Pearl Harbor many architects have enlisted in the nation's armed forces; others have consolidated their special abilities with those of the civilian engineers (as Architect-Engineer specialists) and have contributed to the public service in countless other capacities; the few who have sought to keep their office organizations running in a semi-normal groove have found the going difficult; have worked harder than perhaps ever before in their lives, while the rewards have been of the leanest. With the tapering off of the national construction program such architects and engineers as have been freed from pressing responsibilities in connection with war work (and their numbers will rapidly increase) have turned their attention more actively toward planning for the post-war period. Groups of architects and engineers have formed joint committees in most of the larger centers to study the complicated questions involved in this issue. This movement has been greatly stimulated by the Chamber of Commerce of the United States through its Construction and Civic Development Department which has sought to direct these efforts into channels leading beyond the mere listing and programing stages into the actual preparation of drawings and specifications for projects recommended to be undertaken. New York State has appropriated $3,400,000 for the actual preparation of drawings and specifications for future public works; while New York City has appropriated $25,000,000 for the same purpose.

ARCHITECTURAL JOURNALS

It would seem that the lack of variety in building types and general scarcity of varied material such as normally fills their pages would reflect adversely on the product of the architectural journals, but such has so far not been the case. A surprising degree of vitality and courage has been shown by the leading journals of architecture which, in the United States, England, and Canada, have continued to send forth regular issues remarkably inspiring and stimulating in content. These virtues may be attributed to the stimulation of the editorial mind under stress; to the need to search out and discover new ideas; and to project these ideas into the future. Thus there has been much writing on post-war reconstruction; on efforts to discover the probable necessities of the post-war world (which architecture encompasses so comprehensively), and in planning to meet those needs. Thus scope has been given to flexibility of ideas which possibly only ranges best in times of stress. For these contributions the year 1943 will be remembered.

NOTEWORTHY BUILDINGS

Noteworthy buildings in addition to those already mentioned for the year include: The Houghton Library of Rare Books, Harvard University; Library for Carroll College, Waukesha, Wis.; John Adams Junior High School, Santa Monica, Calif.; Rugan School, Glenview, Ill.; Washington Statler Hotel, Washington, D. C.; U. S. Naval Hospital, Bethesda, Md.; Thomas Jefferson Memorial, Washington, D. C.; War Department Pentagon Building, Washington, D. C.; Two War Housing Projects, Coatesville, Penn.; Permanent Government-built Housing, Channel Heights, Los Angeles, Calif. and Baldwin Hills Village, Los Angeles, Calif.

PUBLICATIONS

Autobiography of Frank Lloyd Wright (2nd Edition).

The City: Its Growth: Its Decay: Its Future, by Eliel Saarinen.

Brazil Builds: Architecture New and Old: 1652-1942, by Philip L. Goodwin.

The Life of Forms in Art, by Henri Focillon. (Trans. by C. B. Hogan and G. Kubler).

Industry and Rural Life, by H. Bryant Newbold.

The Old Churches of London, by Gerald Cobb.

Lee Mansion, by Randle Bond Truett.

Report of the Chicago Land Use Survey (Vol. 1), by Chicago Plan Commission and WPA.

EDUCATION

The situation in respect to architectural education remains unimproved and an atmosphere of pessimism pervades the schools. Nowhere are there any substantial enrolments; many schools normally operating with over 100 students now have a mere handful—six or eight altogether. It takes at least four years to train a man to be a useful member of an architect's organization and at least seven for him to be qualified to apply successfully for a license to practice. If there is to be a great resurgence of building immediately after the war ends it will speedily lose momentum if architects are faced with a shortage of well trained assistants. Post-war planning committees should take account of this situation which will grow progressively worse unless remedial action is taken.

MUSIC AND THE OPERA

By Oscar Thompson
Music Critic, *The New York Sun*

MUSIC IN WARTIME

A second full year of war found music flourishing throughout the United States, with opera in increased demand and with additional concert courses established in many communities where large war industries either have materially increased the population or put added spending money in the hands of thousands. The over-all picture has been an altogether heartening one for music, and the eagerness with which new audiences have turned to serious manifestations of the art would appear to bear out what has been contended with respect to the influence of the radio and the phonograph in towns and sections where actual musical events have been few in the past. The transfer of the working activities of countless individuals from these less-favored localities to booming industrial centers has led to an immediate and recognizable growth in attendances and, in many instances, in the number of musical events the communities could support. This, it is argued, is proof of the cultural advance of the country and of the contention that there are music lovers everywhere if only the means could be found to bring music to their doors.

TRANSPORTATION DIFFICULTIES

Transportation difficulties have increased rather than diminished and these may be said to have been the chief obstacles to a distribution of music-giving such as this country has never known before. In some instances, orchestras have had to curtail their tours because of the difficulties of moving ensembles of 80 to 110 men from city to city so as to fulfill fixed schedules. Travel has been difficult or not feasible at all for large operatic companies, though it would seem that the demand for opera has become more widespread than ever before. Several companies have increased the number of their out-of-town dates, however, and the field has been particularly promising for relatively small opera groups that dispense with chorus and orchestra and give opera in reduced form—"streamlined opera," as it is often referred to in the profession. This is nothing particularly new, but its prevalence in 1943 evidenced the alertness of various managerial factors to a situation that promised them audiences for opera if they could solve the problem of sending it about.

There was, indeed, one major operatic casualty in 1943, that of the Chicago Opera Company, which gave no season. However, the decision to forego performances for a year was made in the midst of a program of reorganization, and there was every indication that the company would return to the field in 1944. One of the governing considerations in Chicago was said to be the virtual disappearance of the opera company's chorus, the members of which had scattered, to take war employment in many instances. New choruses are not built in a few weeks. To offset this temporary loss in the domain of opera, there was good news in the symphonic field. The Detroit Symphony, which was inactive in the season of 1942-43, returned to the fold in that of 1943-44, reorganized in personnel and backing, and with Karl Krueger, former conductor of the Kansas City and Seattle orchestras, at its head.

MUSIC FOR SERVICE MEN AND WOMEN

Concerts and other performances for service men and women went on, the scale increasing as the United Service Organizations and other agencies carried their musical activities to all points of the compass in providing programs for the men in the Pacific, in Africa, Sicily, Italy, Great Britain, Iceland, and other remote spheres. The leading orchestras under their eminent conductors paid visits to near-by camps and stations, these being conditioned chiefly by the feasibility of short-haul bus transportation. Many former concert and operatic artists devoted their entire time to USO programs, while others who continued their professional careers in the United States contrived to contribute a portion of their time to music-making for the men and women in uniform.

OPERA AT THE METROPOLITAN

As is true each year, 1943 included parts of two seasons of opera at the Metropolitan Opera House—the close of the season of 1942-43 and the first part of the season of 1943-44. Edward Johnson continued as general manager, and the organization of the Metropolitan Opera Association was much what it had been since the opera company bought the building from the Metropolitan Real Estate Company. No further changes were made in the house itself, though there was talk of doing away with the boxes altogether at the end of war, thus making the long famous haunt of socialites completely a place of opera "for the people."

The season of 1942-43 was of 16 weeks in New York, supplemented by some post-season performances. The new season of 1943-44 was planned on a basis of 20 weeks, with certain nights blank, so that there would be 16 Monday night performances, 16 Wednesday night, 16 Thursday night, 18 Friday night, 20 Saturday afternoon, and 20 Saturday night (including two Saturday night benefits), in the course of the longer season. It was felt that this wider spacing of the New York performances would result in larger audiences and more desirable contracts for the artists. There undoubtedly will be a spring tour, the details of which will be determined later. The season of 1942-43 concluded with weeks of almost record attendances, but the company's engagements outside of New York imposed such a drain on its financial resources that at the start of the new season of 1943-44 a campaign was launched to raise an operating fund of $300,000.

The first opera sung at the Metropolitan in 1943 was Bizet's "Carmen" on Jan. 1, and the last one was Rossini's "Il Barbiere di Siviglia" on Dec. 31. The Rossini work served also as the New Year's Eve opera the year before. These events were, of course, in two different seasons. That of 1942-43 continued, as scheduled, until March 13. Thereafter came six post-season performances, March 15-20 and the usual Good Friday "Parsifal" in April. Revivals after the turn of the year were Verdi's "La Forza del Destino" conducted by Bruno Walter, with a cast that included Zinka Milanov, Irra Petina, Kurt Baum, Lawrence Tibbett, Ezio Pinza, and Salvatore Baccaloni; and Charpentier's "Louise" under the musical leadership of Sir Thomas Beecham and sung by Grace Moore, Raoul Jobin, Ezio Pinza, and Doris Doe, among others. The annual "Der Ring des Nibelungen," conducted by Erich Leinsdorf, was presented on four Tuesday evenings, Feb. 9 and 16, March 2 and 9. Friedrich Schorr sang his operatic farewell as the Wanderer in the "Siegfried" of March 2.

The Boston, Baltimore, and Hartford visits of the company were cancelled, but the usual eight performances were given during the season in Philadelphia. The annual tour was limited to Chicago and Cleveland. There were two weeks of opera in Chicago, opening on March 22 with Mozart's "Le Nozze di Figaro" and continuing through April 3; and a six-day festival in Cleveland, April 5-10. A total of 110 performances of 30 operas was reached for the regular season of 16 weeks in New York.

The new season of 1943-44 opened on Monday, Nov. 22, with Mussorgsky's "Boris Godunoff," a revival of the previous December, conducted by

George Szell and with Ezio Pinza, Armand Tokatyan, Kerstin Thorborg, Leonard Warren, Nicola Moscona and Salvatore Baccaloni in the cast. Thelma Altman made her debut as Feodor. This was the first time that a Russian opera had begun a Metropolitan season. On Dec. 4, Thomas's "Mignon" was revived under the musical leadership of Sir Thomas Beecham, with Rise Stevens in the title role and James Melton as Wilhelm Meister. Patricia Munsel, a girl of 9 and said to be the youngest singer to have appeared at the Metropolitan in important roles, made her debut as Philine. There was another debut, that of Donald Dame as Laerte.

George Szell took over the musical direction of "Die Walküre" on Dec. 2, in succession to Erich Leinsdorf, who had begun the new season as conductor of the Cleveland Orchestra. It was announced that Leinsdorf would be loaned back for the season's "Parsifal." John Baker made his debut as Morales in an early "Carmen" and Frederick Lechner as the Marquis of Calatrava in "La Forza del Destino." Another new singer Christina Carroll, first appeared as Musetta in "La Bohème."

With Cesare Sodero conducting, Bellini's "Norma" was brought back after an absence of five years on Dec. 29. The cast included Zinka Milanov, Bruna Castagna, Frederick Jagel, and Ezio Pinza. Verdi's "Rigoletto" and "Un Ballo in Maschera" also were returned to the repertory after brief absences, and the double bill of Mascagni's "Cavalleria Rusticana" and Leoncavallo's "Pagliacci", which had been heard only in a post-season performance in 1942-43, resumed its place. "Un Ballo in Maschera," first given on Dec. 17, was conducted by Bruno Walter, with chief roles sung by Zinka Milanov, Kerstin Thorborg, Jan Peerce, and Leonard Warren.

With Sir Thomas Beecham conducting, Offenbach's "Les Contes d'Hoffmann" was revived on Dec. 10, with Raoul Jobin, Patricia Munsel, Lily Djanel, Jarmila Novotna, Hertha Glaz, Ezio Pinza and Martial Singher (debut) in the chief roles. Scheduled for revival after the first of the year were Puccini's "Gianni Schicchi," Verdi's "Falstaff," and Debussy's "Pelléas et Mélisande".

The new season was designated the "Diamond Jubilee" season. As the Metropolitan was opened in 1883, this was really the sixty-first year of the house, but there were two seasons when no opera was given, the season was the fifty-ninth.

CIVIC CENTER AND OTHER OPERA

With the New Opera Company contenting itself with successful revivals of Johann Strauss's "Die Fledermaus" (called "Rosalinda" in a new English Version) and Lehar's "The Merry Widow," both in the field of operetta, special interest was attached to the new Civic Center's opera plans. Though privately sponsored as a non-profit corporation under the presidency of Mayor LaGuardia of New York, its dramatic and musical activities assumed almost a civic aspect. Mecca Temple, with its 3,500 seats, was taken over and refurbished. Performances of Flotow's "Martha," Bizet's "Carmen" and Puccini's "Tosca" were projected. Six weeks of Gershwin's "Porgy and Bess" were scheduled and three weeks of ballet.

Michael Kachouk's Russian Opera company staged performances of Tchaikovsky's "Eugen Onegin" (Oct. 20) and Borodin's "Prince Igor" (Dec. 29) in Carnegie Hall. Fortune Gallo's San Carlo Opera company gave a dozen operas in the course of its annual opera engagement in New York, Oct. 7-23, and later resumed its tours. Entering its fifth year, the Philadelphia Opera Company was heard in two weeks of performances in November and December and went on tour, with performances in Toronto from Nov. 29 to Dec. 11. Its 1943-44 repertory included Puccini's "Tosca," Bizet's "Carmen," Strauss's "The Bat" ("Die Fledermaus"), Rossini's "Barber of Seville" and the Gilbert and Sullivan "Iolanthe," all in English. The Philadelphia La Scala Company began its home season on Nov. 3, with a schedule of ten performances in Philadelphia, and various others on tour. Operas of its repertory included Verdi's "Aïda," "Rigoletto," "Trovatore" and "La Traviata," Rossini's "Barber," Bizet's "Carmen," and the "Cavalleria"-"Pagliacci" twins.

OPERA ON THE PACIFIC COAST AND ELSEWHERE

On the Pacific Coast, the twenty-first annual season of the San Francisco Opera Company opened on Oct. 7 with Saint-Saëns's "Samson et Dalila" and closed on Oct. 30 with "Cavalleria Rusticana" and "Pagliacci." Other operas given were Puccini's "La Bohème" and "La Fanciulla del West," Verdi's "Rigoletto," "Forza del Destino," "Traviata" and "Il Trovatore," Rossini's "Il Barbiere," and Donizetti's "Don Pasquale" and "Lucia," Bizet's "Carmen" and Mozart's "Don Giovanni". Virtually the same organization gave a series of performances in Los Angeles, closing on Nov. 7. There were also performances in Sacramento.

The Dayton (Ohio) Opera Festival, Sept. 17-26, brought performances in Memorial Hall of nine works, these being "Traviata," "Carmen," "Martha," "Cavalleria Rusticana," "Pagliacci," "La Bohème," "Tosca," "Trovatore" and "Rigoletto." There was a festival week of opera in Detroit, Sept. 27-Oct. 3 and the same company (the Philadelphia La Scala) gave performances in Baltimore. Touring groups presented "Don Pasquale," "Faust," "The Marriage of Figaro," and "The Barber of Seville" in somewhat abbreviated form, and there were local opera ventures in Union City, N. J., Trenton, Hartford, Detroit, Pittsburgh, New Orleans, Los Angeles, and various other cities.

Important in the sphere of radio opera was the NBC broadcast from New York on Oct. 9, of the premiere of Italo Montemezzi's "L'Incantessima," with the composer conducting. Grétry's "The Two Misers" ("Les Deux Avares") had what was probably its first American performances at Columbia University, which at the beginning of the new school year established an operatic workshop. Ernst Bacon's folk opera, "A Tree on the Plains," was given at the University during the first week of May.

THE PHILHARMONIC-SYMPHONY

The New York Philharmonic-Symphony continued in the concluding weeks of its 101st season, which ended on April 18 with one of three uncut performances of Bach's St. Matthew Passion, the celebrational aspects of the centennial season of 1941-42. Bruno Walter was the conductor of the Passion performances. Efrem Kurtz appeared as guest conductor after the turn of the year. Before the season closed a tempest in a teapot was caused by the announcement of the dropping of 14 players whose names were given to the press and included that of the concert master, Mishel Piastro. The decision to make these changes was made by the newly appointed musical director, Artur Rodzinski. A grievance committee held over the orchestra for a time the threat of a strike, but union officials upheld the right of the conductor to make such changes as he considered advisable, under the terms of the orchestra's contract with the union. Some of the men were subsequently re-instated, but not the concert master, who returned to the radio and recital fields, and was succeeded for 1943-44 by his former assistant, John Corigliano. In a new arrangement, the orchestra's Sunday broadcasts were taken over by the United States Rubber Co. and were continued under various conductors through the summer, thus providing 52 weeks of steady employment for the members of the orchestra. Post-season events included a Rachmaninoff Memorial concert on June 1 and a Viennese Festival concert on May 18.

The 1943-44 season (the 102nd) opened on Oct. 7 in Carnegie Hall. Dr. Rodzinski, since 1933 the leader of the Cleveland Orchestra, was in his new post as conductor and musical director. It was announced that Bruno Walter would lead the orchestra for six weeks (three periods of two weeks each), and Howard Barlow for two weeks. Leonard Bernstein was engaged as assistant conductor. The schedule called for 28 subscription weeks in Carnegie Hall, divided into eight series—14 odd Thursday evenings, 14 even; 14 odd Friday afternoons, 14 even; seven odd Saturday evenings, seven even; 14 odd Sunday afternoons, 14 even—plus six Young Peoples concerts, these under the direction of Rudolph Ganz. Mr. Walter's first fortnight of concerts was interrupted by illness, and young Mr. Bernstein made a surprise début on Nov. 14. He led the orchestra on two other occasions before the end of 1943.

NEW ORCHESTRAL WORKS

Many new compositions were given their first performances, or first American performances in cases where they had already been heard abroad. American works predominated among these. Symphonies played for the first time in New York, Boston, Philadelphia, Chicago, Cleveland, or elsewhere included Martinu's No. 2, Barber's No. 2, Schumann's No. 5 (for strings), Harris's No. 5, Berezowsky's No. 4, Read's No. 2, Kabalevsky's No. 2, Tansman's No. 5, Bennett's "The Four Freedoms," and symphonies by Oldberge and Moross, besides other first performances in various localities that were not actually premieres. Other works of symphonic character heard for the first time were Lopatnikoff's "Opus Sinfonicum," Stravinsky's "Ode" in memory of Mrs. Kousevitzky, Foss's "The Prairie," Hindemith's "Cupid and Psyche," Bornschein's "The Earth Sings," Taylor's "A Christmas Overture," Berezowsky's "A Festival Christmas Overture," Revueltos's "Camenos," Villa-Lobos's "Magic Window" Suite, Carpenter's Dance Suite, Bennett's Symphonic Picture of Gershwin's "Porgy and Bess," Schumann's "A Free Song" (with chorus), Copland's "A Lincoln Portrait" (with speaker), Creston's Choric Dance No. 2, Schumann's "Prayer 1943," Piston's Prelude and Allegro for Strings, Read's "First Overture," Grainger's "Youthful Suite," Kohs's Concerto for Orchestra, Tuthill's "Big River" (with voice), Ireland's "Epic March" and McDonald's "Bataan," among others. New or newly introduced works of interest to soloists were Martinu's Concerto for two pianos and Concerto for violin, Dukelsky Concerto for violin, Bartok's Concerto for violin, Gnatali's Second Piano Concerto, Collins's Piano Concerto No. 3, and Bates's Concertante for piano and strings.

A series of 17 short compositions on war subjects were commissioned by the League of Composers for performance by the Philharmonic-Symphony. Those played by the close of 1943 included Rogers's "Prelude to Invasion," Carpenter's "The Anxious Bugler," Martinu's "Memorial to Lidice," Harris's "March in Time of War," Berezowsky's "Soldier on the Town," and Herrmann's "For the Fallen." Other war pieces heard for the first time included Barber's "Commando March," Harl McDonald's "Dirge for Two Veterans," and David van Vactor's Suite "For the Marines."

OTHER NEW YORK ORCHESTRAS

The NBC Symphony Orchestra, maintained primarily for broadcasting, gave radio concerts before invited audiences in its Radio City studio, the year round. For the first time these had a commercial sponsor, the General Electric Company. The winter series, the conducting of which was divided between Arturo Toscanini and Leopold Stokowski, was again on a true symphonic basis, though limited to an hour, 5 to 6 P.M. on Sunday afternoons. Mr. Stokowski introduced several new orchestral works and gave radio premieres of others that had been heard at public concerts. Mr. Stokowski's performance of Bach's St. Matthew Passion as a miracle play at the Metropolitan opera house, with lighting, costumes, and some action, was a much-discussed event of the final weeks of the 1942-43 season, particularly because of its contrast with Bruno Walter's presentation of the same work with the Philharmonic-Symphony and Paul Boepple's of the same composer's St. John Passion with the Dessoff Choirs. The regular season of the National Orchestral Association, a training orchestra led by Leon Barzin, began on Nov. 8. The New Friends of Music confined their programs for the new season to the chamber music of Beethoven.

THE BOSTON SYMPHONY

The Boston Symphony continued playing at summer concerts until Aug. 30, although there was no Berkshire Festival in 1943. At the end of the regular season it began the "Pops," then the Esplanade Concerts, and finally a summer series, so that there was a grand total of 242 concerts in 304 days, of which 60 were in the regular Boston season, 45 in cities other than Boston, 70 in the "Pops" series, and 28 in the Esplanade series. There were also Youth concerts, service benefits, and special programs. The orchestra played as a unionized body as the result of its settlement with the American Federation of Musicians the year before.

The organization's 62nd season, which closed on May 1, included the regular series of 10 concerts in New York, and five in Brooklyn; with others in Cambridge, Providence, Hartford, New Haven, Pittsburgh, Buffalo, Ann Arbor, Toledo, Cleveland, Rochester, New London, Springfield, Philadelphia, Northampton, Worcester, and New Brunswick. Serge Koussevitzky was the regular conductor. Arthur Fiedler conducted the "Pops" and Esplanade programs.

The Boston Symphony's 63rd season opened in Symphony Hall on Oct. 8, with Dr. Koussevitzky entering his 20th year as the orchestra's conductor. Richard Burgin was again the assistant conductor and concertmaster. The home schedule called for the usual 24 pairs of concerts on Friday afternoons and Saturday evenings, and six pairs on Monday evenings and Tuesday afternoons; together with 10 concerts in New York, five in Brooklyn, eight in Cambridge, other out-of-town concerts, and performances for members of the armed forces. There were only five changes in the personnel.

THE PHILADELPHIA ORCHESTRA

Though the Philadelphia Orchestra cancelled its tours in the South, Middle West, and Northern New York, because of travel conditions, it gave 121 concerts in the season of 1942-43. The regular home series in the Academy of Music was concluded on April 30. The orchestra's last New York concert was given on April 16. Six concerts were given in Washington, the last being a special all-Wagner program on April 20. The final Baltimore program was played on April 3. The orchestra also filled engagements in Hartford, Richmond, Reading, Harrisburg, Pittsburgh, Erie, Toronto, and at the Ann Arbor May Festival (May 5-8). It also joined the Montreal Festival Orchestra in playing for Russian relief.

The 1943-44 season was the orchestra's 44th. It opened on Oct. 8, with Eugene Ormandy in his accustomed place as conductor and musical director, and was scheduled to continue until April 24, 1944. The home season provided for 28 Friday afternoon concerts, 28 on Saturday evenings, five for Youth, five for Children, and three popular concerts on Sunday evenings. Outside of Philadelphia, the orchestra was booked to appear ten times in New York (Oct. 12 to April 11), seven times in Washington (Oct. 19 to March 28) and six times in Baltimore (Oct. 30 to April 14), with 20 other dates in Richmond, Harrisburg, Reading, Pittsburgh, Hartford, Buffalo, Toronto, Ann Arbor, and Saginaw. Besides Mr. Ormandy, Saul Caston and Bruno Walter were to conduct. There were nine new players in the ensemble.

THE CHICAGO SYMPHONY

The Chicago Symphony closed its 1942-43 season in Orchestral Hall on April 30 with Hans Lange conductng. The 1943-44 season—the orchestra's 53rd—began there on Oct. 14, with Désiré Defauw as the new musical director, in succession to the late Frederick Stock, in his place as conductor. Hans Lange remained as his associate, and John Weicher as concertmaster. The orchestra was scheduled to play on 12 Tuesday afternoons and to give 28 pairs of concerts on Thursday evenings and Friday afternoons. In addition there were two Young People's series, of six concerts each, beginning in November. Mr. Lange was to conduct five concerts of a Mozart Festival. The first of the orchestra's annual Milwaukee concerts was given on Nov. 1. In the 53 years of the Chicago Symphony's existence it has had but three musical directors: Theodore Thomas, Frederick Stock, and Désiré Defauw.

THE CLEVELAND ORCHESTRA

The Cleveland Orchestra, led by Artur Rodzinski, closed its home season on April 3. The orchestra played 43 concerts on tour. With the departure of Dr. Rodzinski to become musical director and conductor of the New York Philharmonic-Symphony, Erich Leinsdorf of the Metropolitan Opera Association was chosen as his successor. Rudolph Ringwall remained as associate. Mr. Leinsdorf opened the orchestra's 26th season on Oct. 7 in Severance Hall and continued as conductor until the first of the year when it was made known that he would be inducted into the armed forces. The orchestra's schedule included 20 pairs of concerts on Thursday and Saturday evenings, three series for children, educational concerts for different ages, music memory concerts, and "Twilight" concerts on Sundays at 5 P.M. The orchestra planned five weeks of touring in the Middle West, New England, and the Middle Atlantic states.

CINCINNATI AND ST. LOUIS

The Cincinnati Symphony gave the last concert of its regular 1942-43 season on April 17. Eugene Goossens remained as musical director and conductor for the 1943-44 season, which was the orchestra's 49th. Opening on Oct. 8, the orchestra had before it a program of 40 regular symphony concerts, continuing until April 15. Five Young People's concerts were to be given. Nine out-of-town concerts were scheduled, to take place in Fort Wayne, Louisville, Zanesville, Toledo, Columbus, Oxford, and Charleston, W. Va.

The St. Louis Symphony closed its regular home season for 1942-43 on March 13. That for 1943-44, the orchestra's 64th, was begun in the Municipal Auditorium on Nov. 6. Vladimir Golschmann remained as conductor, with Harry Farbman as assistant conductor and concertmaster. The schedule provided for 18 Saturday evenings and 18 Sunday afternoons, a total of 36 as subscription concerts. The St. Louis Philharmonic Orchestra, with Herbert Weiskopf as guest conductor, gave its first concert of the new season on Nov. 6.

WASHINGTON AND BALTIMORE

The National Symphony of Washington, D. C., gave its final concert of the old season in Washington on March 17 and presented its last Baltimore program on March 11. Its 1943-44 season, which opened on Nov. 3 in Constitution Hall, was arranged to include eight Wednesday night concerts, seven on Sunday afternoons, and five—an increase of two—for Young People. The usual concerts in Baltimore were scheduled. Hans Kindler continued as conductor.

The Baltimore Symphony, which ended its 1942-43 season on March 17, resumed its local concerts on Nov. 7 at the Lyric Theater. Reginald Stewart is conductor and Roman Totenberg is concertmaster. There are ten subscription concerts on Wednesdays, 14 popular Sunday night concerts, five for young people and several special concerts on the orchestra's schedule.

PITTSBURGH, HARRISBURG, AND INDIANAPOLIS

The Pittsburgh Symphony, of

which Fritz Reiner is conductor and Vladimir Bakaleinikoff assistant conductor, opened its 1943-44 season on Nov. 12. Samuel Thaviu is concertmaster. Five of the personnel are women. The orchestra has scheduled 16 evening and 16 Sunday afternoon concerts. Several "pops" and a short tour also are planned. The Harrisburg Symphony, conducted by George King Rausenbush, opened its 14th season on Oct. 12 in the Forum of the State Education Building.

Under the leadership of Fabien Sevitzky, the Indianapolis Symphony began its new season on Nov. 6. Howard Barlow was scheduled to appear as guest conductor. There were 34 new players in the personnel. Ten concert pairs were listed, to be given on Saturday nights and Sunday afternoons. Special concerts and concerts in the public schools also were planned.

DETROIT, MINNEAPOLIS, AND KANSAS CITY

The resumption of activity by the Detroit Symphony, which had been dormant in the season of 1942-43, was an important development in the symphonic field. With Karl Krueger as the new conductor, the orchestra returned to the field on Oct. 21, the program honoring its former conductor, the late Ossip Grabrilowitsch. Eighteen concerts were scheduled for its regular series, all but two on Thursdays. A Sunday evening broadcast series was planned.

The Minneapolis Symphony, led by Dimitri Mitropoulos, had a schedule for 1943-44 similar to that of the last previous season, beginning in October, with evening subscription concerts on Fridays, a Twilight series on Sundays, concerts for Young People, and various special events. This orchestra has given many concerts for the armed services.

With Efrem Kurtz as its newly appointed conductor, the Kansas City Symphony gave its first concert of the new season on Dec. 8. It scheduled 10 regular subscription concerts and a number of Sunday afternoon "Pops." Orlando Barera is its concertmaster. There are 20 women in the ensemble.

ROCHESTER AND BUFFALO

The Eastman-Rochester Symphony began its new season on Oct. 28 under Howard Hanson, at its 54th American Composers' Concert. The Rochester Philharmonic, conducted by Guy Fraser Harrison, opened its 21st year on Nov. 4 at the Eastman Theater. The Buffalo Philharmonic, of which Franco Autori is conductor, gave its first concert on Nov. 2. Its schedule provides for ten concerts, three with the Philharmonic Chorus. This is the organization's 5th season as an independent symphony orchestra.

SAN FRANCISCO, LOS ANGELES, AND SEATTLE

The San Francisco Symphony's regular 1942-43 season ended on April 17. That for 1943-44—the orchestra's 32nd—began on Nov. 19 at the War Memorial Opera House. Pierre Monteux remained as conductor, with Leopold Stokowski and André Kostelanetz engaged as guests. The season's program called for eight Friday afternoon concerts, 12 on Saturday evenings, four "Pops," four for Young People, and various special programs, including memorial concerts presented by the Art Commission, and broadcasts. The orchestra also had several out-of-town engagements.

The Los Angeles Philharmonic had a new regular conductor in Alfred Wallenstein. The old season closed on March 19, with eight fewer concerts than originally planned. Mr. Wallenstein took up the baton at the opening concert of the new season on Nov. 18. Zoltan Kurty was assistant conductor and solo violist. David Frisana was concertmaster. There were 40 new players, 12 of whom were women. Ten pairs of concerts were arranged for the Auditorium.

The Seattle Symphony began its new season under Sir Thomas Beecham on Sept. 26 at the Mosque Theater. The first subscription concert was given a day later at the Music Hall. Jean de Rimanoczy, the concertmaster, conducted on Nov. 7 and

8, and Albert Coates on Nov. 15. Giving ill health as his reason, Sir Thomas quit the orchestra at a time when he had three more concerts to conduct, and returned to New York by way of California.

OTHER ORCHESTRAS

The Denver Symphony, conducted by Horace E. Tureman, began its new season on Oct. 22; and the Denver Civic Symphony, under the same leadership, on Nov. 14. The New Orleans Symphony, led by Ole Windingstad, resumed its activities on Nov. 9 in the Auditorium. The Memphis Symphony, Burnet C. Tutill conductor, began its season in November. With Robert S. Whitney conducting, the Louisville Philharmonic opened its new concert series on Oct. 12. The Houston Symphony, led by Ernst Hoffman, gave its opening concert on Oct. 18. The San Antonio Symphony, Max Reiter, conductor, resumed on Nov. 6.

SPRING AND SUMMER EVENTS

Spring Festivals included the annual Bethlehem May Festival, devoted to Bach and conducted by Ifor Jones, May 14-16; the Ann Arbor Golden Jubilee Festival, May 5-8; the Berea Bach Festival, April 30-May 1, the 13th Festival of American Music at Rochester, N. Y., Howard Hanson director, April 13-17; the Columbia, S. C., Symphony's Festival, conducted by Edwin McArthur, May 7-8; and the 14th annual Festival at Fiske University, Nashville. The Worcester Festival, scheduled for the first week in October was cancelled, though a memorial program was given for its late conductor, Albert Stoessel, who dropped dead while leading a performance of Walter Damrosch's "Dunkirk" before the American Academy of Arts and Letters in New York.

The Lewisohn Stadium Concerts in New York, played by the Philharmonic-Symphony, opened on June 18—one day late, because of rain—and continued until Aug. 1. There were opera and ballet performances in addition to the regular symphony programs. The similar concerts at the Dell in Philadelphia, with the Philadelphia Orchestra performing, opened on June 21 and closed on Aug. 6. There was no Berkshire Festival, but the Boston Symphony gave concerts through most of the summer in Boston. The Hollywood Bowl Concerts continued from July 4 to Sept. 5, with a wide variety of programs, but chiefly symphonic. In Chicago the eighth annual Ravinia Park Festival occupied the period of June 29-Aug. 8 and orchestral concerts in Grant Park continued until Sept. 5. The 15th Chicago Music Festival was held on Soldier Field, Aug. 21, before an audience of nearly 100,000.

In Washington the Watergate Concerts were given by the National Symphony, June 13-July 15, and the Merdian Hill Chamber Music series ran throughout the summer. There were summer concerts also in Cleveland, Houston, San Francisco (Stern Grove), Milwaukee, Toledo, San Antonio, Greenville, S. C., and various other cities. The Piedmont Festival of Music and Art was held at Winston-Salem, N. C., July 22-25.

Chautauqua, N. Y. had its usual summer opera and symphony concerts, July 15 to Aug. 22; and there were opera performances also in San Francisco, Los Angeles, and New Orleans, besides the annual summer seasons at Cincinnati and St. Louis, and a Spring Festival at Dayton. An event of interest was the "streamlined" biennial convention of the National Federation of Music Clubs, held in New York, May 6-8, with 37 of 48 states represented, and a radio festival given in lieu of the usual convention concerts. Mrs. Guy Patterson Gannett of Portland, Me. was reelected president.

THE THEATRE

By Louis Calta

Drama Department, *The New York Times*

WAR AND THE STAGE

With victory for the United Nations in the making, the American Theatre experienced one of its most opulent periods. Not since the fabulous days of the twenties did Broadway entrepreneurs witness such land-office business at the box-office. Regardless of their merits, attractions prospered and played to packed or nearly packed houses. In the general anxiety of the public to see a "live show," the opinions of the professional appraisers counted for nought. It was said that a play required only a roof over its head in order to sell out. The students of the drama likened the situation to that of London's, where nothing new can ever open because nothing old will close. The shortage of Broadway theatres became so acute that more than half a dozen productions drifted about the provinces waiting for available playhouses. The explanations were manifold, among them being the influx of indiscriminate spenders from out-of-town and the invasion of New York by service men. Whatever the reasons, it was a bizarre season with no regrets from the New York managers.

While Broadway lined its pockets with the new found gold, its people did not forget to respond with the usual patriotism and liberalness. Through the American Theatre Wing War Service's Stage Door Canteen, that renowned gathering place for service men of all the United Nations, actors, actresses, managers, press agents, and other representatives of the amusement world donated their services and talents. The USO-Camp Shows, Inc., continued to send innumerable entertainment units overseas as well as prominent personalities of the stage, screen, and radio for the divertissement of our fighting men. Traveling troupes, composed of members from the casts of Broadway productions, made regular appearances at the camps located within the metropolitan area. Toward the end of the year, the New York Recreation Committee, which provides free amusement passes to enlisted men visiting New York, issued its 5,000,000th ticket.

"THE PATRIOTS"

In more ways than one, though, the theatre was affected by the war. This country's second year of participation in the world conflict found the dramatists vividly conscious of the struggle between democracy and totalitarianism. During the theatrical semester more than a dozen works dealing with the war were presented with varying degree of success on the local stage boards. Unquestionably, the most notable of these was "The Patriots," which arrived on Broadway early in January. Written by Sidney Kingsley, it dealt with the pristine days of our country and with Jefferson, Hamilton and Washington. It told in sharp strokes of the bitter quarrels between Hamilton and Jefferson over the former's lack of faith in the experiment of democracy and contained analogies and parallels between the past and present. A truly fine play, it was easiest the year's relatively worthiest drama. The play was produced in New York by the Playwrights' Company on the bicentenary of the birth of Jefferson, author of the doctrine of liberty, The Declaration of Independence. It had a successful run of 172 performances at the National Theatre. Shepard Traube, one of the theatre's better craftsmen, staged "The Patriots" so that it flowed evenly and with emphasis. In the role of Jefferson, Raymond Edward Johnson gave a noteworthy performance comparable to

Raymond Massey's Lincoln. House Jameson and Cecil Humphreys caught the qualities of Hamilton and Washington, respectively. The New York Drama Critics Circle awarded Mr. Kingsley its plaque for having written the best American play of the season.

"COUNTERATTACK"

The next war drama to come along was "Counterattack," which had its origins in Russia. This was a melodrama by Janet and Philip Stevenson based on a Russian play by Ilya Vershinin and Mikhail Ruderman. A tense and exciting work it was considered the best of a series of dramas about the Russian people in defense of their land against the Nazi invaders. Basically it was a horror tale about two Russian soldiers in charge of a group of German prisoners, all of them trapped in the cellar of a building after a bomb destroyed the stairway. As the two guards, Morris Carnosky and Martin Wolfson gave excellent performances. Although the members of the critical fraternity were generally kind to it, "Counterattack" lasted for only eighty-four performances. Lee Sabinson was the producer and Margaret Webster attended to the staging.

OTHER WAR THEME PLAYS

After that the following plays, which were directly or indirectly inspired by the war, arrived on the Broadway stage boards: "This Rock," by Walter Livingston Faust; "God Strikes Back," written by Paul Nord; "Men In Shadow," "Tomorrow the World," "Sons and Soldiers," "Army Play By Play," "A New Life," "Land of Fame," and "Victory Belles."

Of the group "Tomorrow the World," by James Gow and Arnaud d'Usseau, and "Army Play By Play," a group of one-act plays written by enlisted men and acted by soldier casts, were the most notable. The former took up the timely question of how German children could be brought back into the human race. It provided 12-year-old Skippy Homeier the opportunity to give one of the most virulent characterizations of the year. Well staged by Elliott Nugent, it employed the excellent acting services of Ralph Bellamy and Shirley Booth. The play is still running.

The "Army Play by Play" consisted of plays that were finalists among some 115 plays submitted in a contest set up by John Golden to find soldier-created material that would be playable by the soldiers themselves in camps and posts. They were excellently received by the critics. Proceeds from the presentation went to the Soldiers and Sailors Club of New York.

"DARK EYES," "HARRIET," "VOICE OF THE TURTLE"

Generally speaking the theatrical year proved a happy one. It produced a good portion of successes and interesting works. As early as January, Jed Harris put on an engaging and entertaining play by Elena Miramova and Eugenie Leontovich called "Dark Eyes." This told about some Russian expatriates on a fabulous visit to Long Island. The authors appeared in it under the expert direction of Mr. Harris for a total of 230 performances. Then Gilbert Miller brought in "Harriet," starring Helen Hayes. Florence Ryerson and Colin Clements wrote it. The play concerned Harriet Beecher Stowe. Miss Hayes gave one of her better portraits in the role of (in the words of Lincoln) that little lady who started the big war. Toward the end of the season John van Druten contributed a delightful comedy entitled "The Voice of the Turtle." With only three characters in the cast, the play succeeded in providing one of the more entertaining evenings in the theatre. Margaret Sullivan, Audrey Christie, and Elliott Nugent portrayed the three parts magnificently. Essentially a love story and light comedy about two actresses and an Army man, "The Voice of the Turtle" sparkled with wit, friendly humor, and contained the proper elements to make it a highly amusing play.

KATHERINE CORNELL AND OTHERS

Katherine Cornell came back to the local scene in a new play—her first since "No Time for Comedy" (1939)—by Dodie Smith. Produced by the actress and John C. Wilson, "Lovers and Friends," as it was called, was excellently cast. Miss Cornell surrounded herself with such experienced hands as Raymond Massey, Henry Daniell, Carol Goodner, and others. Although the play itself was not of much consequence, it offered some first rate performances. In any event, the first lady of the theatre was welcomed back into the fold. Another popular play was F. Hugh Herbert's comedy, "Kiss and Tell." Sponsored by George Abbott, it was a funny play about the young generation treated in a charming and understanding manner. Its story concerned the neighbors and their foibles. The son of one family secretly marries the daughter of another before going off to war, after which there are fights, alarms, and lawsuits. The play was well performed by Joan Caulfield, Tommy Lewis, Jessie Royce Landis, and Robert Keith. Paul Osborn eschewed the war entirely in "The Innocent Voyage," which he dramatized from Richard Hughes' novel, "A High Wind in Jamaica," for the Theatre Guild. Telling of a group of children who are inadvertently kidnapped by pirates, it received mixed notices and lasted for only 40 performances. The Guild, however, was generally commended for offering something out of the run-of-the-mine theatre. There was also another good edition of "Stars on Ice" at the Center Theatre, which is slowly but surely becoming an institution for that sort of thing.

THE CITY CENTER OF MUSIC AND DRAMA

Feeling that "as many as 1,000,000 of our fellow-citizens do not have the opportunity of enjoying the best dramatic and musical productions simply because the prevailing box-office prices are out of the range of their personal incomes," Mayor La Guardia in conjunction with prominent persons in the field of music, opera, drama, and organized labor successfully launched the City Center of Music and Drama on Dec. 11. Located at 131 West Fifty-fifth Street, formerly the site of Mecca Temple, the non-profit city project offered the New York Philharmonic-Symphony Orchestra, under the direction of Dr. Artur Rodzinski, as the inaugural concert. An audience little short of 3,000 acclaimed the performance to start things off on the right foot. Admission prices ranged from 55 cents to $1.10. For the second event, the Center offered Gertrude Lawrence in "Susan and God" at the same popular prices. This was followed by "The Patriots," with Walter Hampden; "Marching with Johnny," a new musical revue sponsored by the National CIO War Productions, and other attractions. Although several members from the League of New York Theatres, organization of Broadway producers, regarded the project as competition to the Broadway theatre the opposition soon simmered out. The Mayor stated that the "purpose of the City Center of Music and Drama is not to compete with any theatre or organization in this city. . . . Our institution simply supplements all that we now have."

"WINGED VICTORY"

As in 1942, when it presented Irving Berlin's phenomenal show, "This Is the Army," the United States Army, specifically speaking, the Air Forces branch, proved to be the year's most successful producer. The show which it put on was Moss Hart's "Winged Victory." Before opening on Broadway the play's New York advance sale had reached $165,340. In its first two full weeks on Broadway the net receipts amounted to almost $70,000 and the profits to nearly $40,000. Several motion picture companies made extravagant bids for the screen rights to the spectacle, but Twentieth Century-Fox Film obtained them for a down payment of $1,000,000 plus percentages based on the income of the picture version. The profits will all go to the Army Emergency Relief Fund.

Last April Gen. Henry H. Arnold commissioned Mr. Hart to write a play about the flying branch of the service. The author made a two-months air-tour of the national bases, collected background material, and set to work on it. On Nov. 2, it opened at the Shubert Theatre in Boston. During its 12-day stay there it realized a total of $53,000. On Nov. 20 the show opened at the Forty-fourth Street Theatre in New York, receiving critical acclaim. Except for 30 civilian actresses, the company of 300 includes members of the Army Air Forces, among them being a captain or two, lieutenants, sergeants, corporals and privates some of whom have been known to the theatre.

Mr. Hart's dramatic offering, designed to depict the true spirit of the Air Corps and telling of the careers of six young men who join the flying forces, has a good many moving scenes, a number of humorous episodes, and a great deal of talent. Mr. Hart did a masterful job of directing it, Sgt. Harry Horne designed the perfect settings, and Sgt. David Rose arranged the music that blends easily into the play. Twenty public spirited citizens contributed $5,000 each to the production fund. The money was returned to them after the production cost was recovered.

PAUL ROBESON IN "OTHELLO"

There were numerous revivals during the year. Perhaps the most distinguished of these was the Theatre Guild's production of Shakespeare's "Othello." Staged by Margaret Webster, it was the best interpretation of "Othello" to be seen here in many years. Excellently done both in the production and in the acting it will probably be on hand for a long time to come. Paul Robeson, who played the Moor a few seasons ago in London, essayed the title role. Looking the part every inch, Mr. Robeson's performance was splendid. As Iago, Jose Ferrer was near perfect. Uta Hagen (in the part of Desdemona) and Miss Webster (as Emilia) also were excellent.

OTHER REVIVALS

Other revivals were "Lady in the Dark," the fabulous musical play by Moss Hart, Kurt Weill, and Ira Gershwin, which came back for a limited engagement with Gertrude Lawrence starred; "Richard III," as offered by George Coulouris and lasting only 11 performances; "The Student Prince," which the Shuberts revived and proved to be quite uneven; "The Milky Way" and "Boy Meets Girl," put on by Lucia Victor's New York Stock Company; "The Vagabond King," with John Brownlee of the Metropolitan Opera Company and Frances McCann; "Run, Little Chillun," the cast including Louis Sharp and Caleb Peterson; the perennial "Tobacco Road," "Blossom Time," "Porgy and Bess," "Goodbye Again," and "The Petrified Forest," the last two being stock presentations by Mary Elizabeth Sherwood. Surprisingly popular was the revival by the New York Opera Company of "The Merry Widow." Robert Stolz made a new musical version of the Franz Lehar—Victor Leon—Leon Stein operetta and, with Jan Kiepura and Marta Eggerth in the leading roles, it turned out to be a diverting and colorful production. Ben Roberts did a good job at touching up the libretto.

MUSICALS

Although 1942 was noted for its paucity of musicals, the Broadway stage boards felt the weight of many dancing feet in 1943. The first to come along, and a good one, was "Something for the Boys," a big, fast, glittering, and lavish musical with Ethel Merman as its star. Having some excellent tunes by Cole Porter and a book by Dorothy and Herbert Fields, it was produced by Michael Todd on Jan. 6 at the Alvin

Theatre, and it is still going strong. The professional appraisers acclaimed Miss Merman as truly immense, and to Paula Laurence, who appeared as the star's comedy foil, went high honors. The company also included Allen Jenkins, ordinarily of the films, who gave a good account of himself. It had a humorous story about three persons (portrayed by the aforementioned players) who inherit a Texas ranch *via* the Court of Missing Heirs.

Two months or so after the opening of Mr. Todd's attraction, "Oklahoma" arrived in New York. Derived from the play "Green Grow the Lilacs," by Lynn Riggs, it became the sensation of the musical stage. It is reported that theatre-goers paid to speculators as much as $25 for a pair of orchestra tickets to the musical. Richard Rodgers wrote the music, Oscar Hammerstein, 2nd, the book and lyrics, Agnes de Mille created the dances, Rouben Mamoulian staged it, and the Theatre Guild was the producer. Truly delightful, "Oklahoma" possessed a fresh and infectious gayety, beautiful acting and singing, a good score, and some inspired dances. In Alfred Drake and Joan Roberts as the two leading singers, the show had superior players.

In the hit category were "Carmen Jones" (Billy Rose's production of the opera "Carmen"), "One Touch of Venus" (the Kurt Weill-S. J. Perelman-Ogden Nash musical which brought back Mary Martin), "A Connecticut Yankee" (the new adaptation of the Mark Twain story by Herbert Fields, Richard Rodgers, and Lorenz Hart), "The Ziegfeld Follies" (a fast moving show with plenty of gags and girls) and Richard Kollmar's "Early to Bed," all of which are still current. Others were "What's Up," "Chauve-Souris of 1943," and "Hairpin Harmony," which met with varying degrees of fortune.

VARIETY

Vaudeville, which has been striving to recapture some of its former glory and prestige, was up and around again in 1943. During the season two such entertainments were offered. First to arrive was "For Your Pleasure," which George Gatts and Frank Veloz presented. It was headed by Mr. Veloz and Yolanda and the Golden Gate Quartet. The reception accorded the attraction was not favorable. After 11 showings it closed. Toward the latter part of the year Paul Small and Fred Finklehoffe made a better showing with "Laugh Time." This one employed the expert services of Frank Fay, Ethel Waters, Bert Wheeler, the Bricklayers, and other good turns. The critics heaped praise on this one, and as a result it remained at the Shubert Theatre for a total of 126 performances.

MELODRAMAS

Although not one good mystery was to be seen on Broadway during the year, there were a number of melodramas. They included "The Two Mrs. Carrolls," by Martin Vale; "Murder Without Crime," by J. Lee Thompson, which was imported from London where it had a brisk run; "Nine Girls," written by Wilfrid H. Pettitt; and "Men in Shadow," by Mary Hayley Bell. Of the lot, the first is still around after opening at the Booth Theatre last August. Although not a perfect play, "The Two Mrs. Carrolls" was regarded as passable. Mainly, it dealt with an artist who had a penchant for disposing of his wives after tiring of them. Elisabeth Bergner played the second wife and Victor Jory the man with the homicidal tendencies.

MISCELLANEOUS SHOWS

The following attractions, some of which are still running, were offered with varying degrees of success: "Three's a Family," a farce comedy by Phoebe and Henry Ephron about the raising of babies, expectant mothers, etc.; "Another Love Story," a comedy by Frederick Lonsdale with Margaret Lindsay and Roland Young in the cast; "The Naked Genius," Gypsy Rose Lee's saga of a burlesque queen trying to better herself by reading books and marrying into the educated class; "All for All," by Norman Bruce; "Those Endearing Young Charms," by Edward Chodorov; "The First Million," by Irving Elman; "Slightly Married" and "Apology," by Charles Schnee; "The Family," by Victor Wolfson; "The Barber Had Two Sons," by Thomas Duggan and James Hogan; "Ask My Friend Sandy," by Stanley Young; "The Moon Vine," by Patricia Coleman; "Try and Get It," by Sheldon Davis; "Manhattan Nocturne," by Roy Walling; "Victory Belles," by Alice Ginsberg, and "Outrageous Fortune," by Rose Franken.

MOTION PICTURES

BY BOSLEY CROWTHER
FILM CRITIC, *The New York Times*

THE FILMS IN WARTIME

The function of the films during a national crisis was exposed to most serious scrutiny during 1943, both with respect to entertainment and the less tangible service of carrying information to the public. Whereas the first year after Pearl Harbor found the motion picture industry anxiously experimenting with policies and product that would conform with wartime exigencies, the second year found it rather comfortably embarked with its ducks—and its attitudes—in a row. These attitudes were conditioned mainly by unprecedented prosperity. Never before in its history did the American film industry experience such tremendous business as it enjoyed during 1943. Film theatres reflected directly the wartime spending boom. Motion pictures of marked inferior quality sold like classics in normal times. As a consequence, the industry's executives were inclined to leave well enough alone. The commercial screen retained primarily its "escapist" entertainment tone.

WAR CONSCIOUSNESS

However, there was ample recognition of the war as a dramatic fact in the fictional motion pictures produced and released during the year. Regardless of their thought content and imagery, war films were more in evidence than during 1942. From all the signs and forecasts, they were more numerous than they will be in 1944. Furthermore, the war's immediacy was reflected on the screen in films of an informational nature, produced by Hollywood and various agencies. The product of the Office of War Information was regularly released in the majority of commercial theatres, until the elimination of the domestic branch of that agency on July 1 terminated its activities. Then the industry continued voluntarily, through its own War Activities Committee, the production and release of short pictures designed to carry war information. Instructive and inspirational pictures on war subjects were also extensively released by the film companies on a regular commercial basis, and many extra-industry groups were responsible for numerous factual films.

FILMS FOR EDUCATION

As a matter of fact, a significant development in the motion-picture realm during 1943 was that of the use of films for education through sources other than Hollywood. The military services continued their extensive utilization of films in their mammoth training programs and also in documenting their far-flung activities. Many of the films made by the services, of a combat nature and otherwise, were shown in commercial theatres and, perhaps, even more extensively, at non-theatrical exhibitions. Films designed as "incentives" to workers in war plants were put out by the Army and Navy, and films imported by the British Information

Service were distributed extensively in both theatrical and non-theatrical release.

More than 25,000 16mm. sound film projectors were in use in this country during the year, according to a report of the OWI, bringing war information films to groups ranging from a handful to several hundred persons. This non-theatrical phase of film exhibition, devoted almost entirely to education and the stimulation of thought, was the year's most auspicious indication of a whole new field of development for post-war films. In this connection, it was more than significant that the University of Chicago, through its *Encyclopaedia Britannica,* purchased ERPI classroom films from the Western Electric Company for post-war educational purposes and that Walt Disney, leading exponent of the educational film movement in Hollywood, was reported making plans for a full-scale program of industrial training films.

PRODUCTION ASPECTS

Meanwhile, in Hollywood, production achieved proportions far beyond early forecasts. Contrary to expectations, war conditions created no serious problems. Materials were generally available, in one form or another, for the construction of sets, and the drain of personnel, particularly among the actors, was met by an unprecedented recruiting of talent from the stage and radio. "Million dollar films" were not uncommon; several were made by the various studios. The year saw an extraordinary trend towards the payment of munificent sums for story properties. At the year's end, there were 50 feature films in production at the major studios—six more than were before the cameras at the same time in 1942, three more than in 1941 and nine more than in 1940. Hollywood was ready and able to supply the nation's avid demand for films.

By dint of careful maneuvering, Hollywood encountered no serious difficulties during the year, either with labor or censorship. A controversy that had existed within the Screen Actors Guild as to autonomy for "extras" was put to a peaceable referendum at the year's end, and an issue as to whether actors should work for less than their established salaries in so-called charitable or patriotic films was evaded when Warner Brothers abandoned production of "Hollywood Canteen." (In the case of "Stage Door Canteen," which proved a large money-maker and from which 92½ per cent of the proceeds went to the American Theatre Wing, many guest actors worked without their usual salary guarantees and on a pro rata basis.) The issue again rose, however, for settlement in 1944 when Warners filed suit against the Screen Actors Guild for compelling abandonment of "Hollywood Canteen."

COOPERATION WITH THE GOVERNMENT

The avoidance of serious censorship problems consequent to the war was managed by generally close relations between Hollywood and various government agencies. The armed services showed a willingness to cooperate in the making of films with war themes, and the Office of War Information, despite the demise of its domestic branch in July, continued to maintain liaison with the film producers through its foreign branch. This advisory mouthpiece for government policy was a valuable pre-production contact with the Office of Censorship, which possessed the only actual suppressive influence over films through its right to ban from export any film considered inimical to war policy. This privilege resulted in the virtual elimination of films about gangsters and other lawless elements in this land.

THE TEN "BEST" FILMS

The films selected as the ten best of the year by *The New York Times* were:

"Watch on the Rhine," adapted from Lillian Hellman's anti-fascist play; directed by Herman Shumlin and produced by Warner Brothers with Paul Lukas, Bette Davis, Lucile Watson, and George Coulouris in the cast.

"Air Force," a drama about a Flying Fortress and its crew, written by Dudley Nichols, directed by Howard Hawks, and produced by Warner Brothers with John Garfield, John Ridgely, Harry Carey, and George Tobias in leading roles.

"Desert Victory," a documentary film of the British Eighth Army's great campaign which climaxed the war in the Libyan Desert, produced by the British Army Film and Photographic unit.

"The Ox-Bow Incident," a scathing anti-lynch drama, written by Lamarr Trotti from a novel by Walter Van Tilburg Clark and directed by William A. Wellman for Twentieth Century-Fox, with Henry Fonda, Jane Darwell, Dana Andrews, and Frank Conroy in the cast.

"For Whom the Bell Tolls," a variable film version of Ernest Hemingway's novel, adapted by Dudley Nichols and produced and directed by Sam Wood for Paramount, with Gary Cooper, Ingrid Bergman, Katina Paxinou, and Akim Tamiroff playing principal roles.

"Report from the Aleutians," a documentary film of the hardships encountered in the Alaskan island chain by American forces, made by the Army Signal Corps under the supervision of Captain John Huston.

"Corvette K-225," an action drama about the Atlantic convoy escorts, written by Lieut. John Rhodes Sturdy, directed by Richard Rosson and produced by Howard Hawks for Universal, with Randolph Scott, John Frederick, David Bruce, and Barry Fitzgerald in the cast.

"Sahara," a drama of desert warfare, written by John Howard Lawson and Zoltan Korda and directed by Mr. Korda for Columbia, with Humphrey Bogart, Richard Nugent, J. Carrol Naish, and Rex Ingram in leading roles.

"The More the Merrier," a comedy of wartime Washington and its housing conditions, written by Richard Flournoy, Lewis R. Foster, Robert Russell, and Frank Ross; directed and produced by George Stevens for Columbia, with Jean Arthur, Charles Coburn and Joel McCrea starred.

"Madame Curie," a film biography of the discoverers of radium, written by Paul Osborn and Paul H. Rameau from Eve Curie's book; directed by Mervyn LeRoy and produced by Sidney Franklin for Metro-Goldwyn-Mayer, with Greer Garson and Walter Pidgeon in the top roles.

WAR FILMS

It is notable that five of the above-named films—"Air Force," "Desert Victory," "Report from the Aleutians," "Corvette K-225," and "Sahara"—had to do directly with the war. Two others—"Watch on the Rhine" and "For Whom the Bell Tolls"—were more or less on anti-fascist themes. Other of the year's notable war films produced in Hollywood were "Action in the North Atlantic," "Bataan," "Guadalcanal Diary," "So Proudly We Hail," "The Moon Is Down," "Commandos Strike at Dawn," and "The North Star."

Most convincing of the war films, however, aside from those among the year's best, were the two excellent Russian documentaries, "Siege of Leningrad" and "Heroic Stalingrad—the City that Stopped Hitler," and the interesting, provocative films which were made by the Army Signal Corps, under the supervision of Lieut. Col. Frank Capra, as "orientation" films for the forces to explain "Why We Fight." Only two of the five films produced in this series—the first, "Prelude to War," and the last, "The Battle of Russia"—were released for general theatrical showing, through the War Activities Committee of the motion picture industry, but the other three—"The Nazis Strike," "Divide and Conquer" and "The Battle of Britain"—were equally excellent films. Oddly enough, they were released for general distribution in Britain.

ENTERTAINMENT FILMS

In striking contrast to Hollywood's war films were the "escapist" pictures on which it splurged during the year—comedies, musical pictures, and wistful dramas on currently irrelevant themes. Outstanding among the musical films was Warner Brothers' adaptation of Irving Berlin's Army show, "This Is the Army," in which most of the entertainment was provided by the Army troupe that played the show so successfully on the stage, but for which the Warners had written a story plot featuring several of its stars. Returns from the film, over and above the theatres' "takes" and distribution costs, plus an original down payment of $250,000 for the film rights by Warner Brothers, were donated to the Army Emergency Relief Fund. This film and "Stage Door Canteen," mentioned above, were among Hollywood's patriotic contributions during the year, as was the film, "Forever and a Day," made cooperatively by a group of British and American film people, the proceeds from which were donated to a group of British and American war charities.

Other of the year's notable musicals were "Thousands Cheer," "Best Foot Forward," "Coney Island," "DuBarry Was a Lady," "Let's Face It," "Sweet Rosie O'Grady," and two with all-Negro casts, "Cabin in the Sky" and "Stormy Weather." These latter were an indication of Hollywood's newly-professed deference towards the Negro race—a deference which was likewise apparent (sometimes too clumsily) in other films. Walt Disney's "Saludos Amigos," a combination "live action" and cartoon travelogue, made for the specific purpose of creating Latin American good-will, was also one of the year's enjoyable musicals.

COMEDY, DRAMA, AND CONTROVERSY

Distinguished in the comedy line were the above-mentioned "The More the Merrier," "Holy Matrimony" (a modernized version of the old Arnold Bennett novel, "Buried Alive," with Monty Woolley and Gracie Fields as its felicitous stars), "Princess O'Rourke," "Heaven Can Wait," "Mr. Lucky," "True to Life" and "No Time for Love." Notable in the line of drama were "The Human Comedy," a sort of American-life fantasy, written by William Saroyan; "Keeper of the Flame," a middling well-done anti-American-fascist film; "This Land Is Mine," "Hangmen Also Die," "The Constant Nymph," and "Shadow of a Doubt."

Most controversial of the year's films was "Mission to Moscow," the Warner Brothers' enthusiastic adaptation of former Ambassador Joseph E. Davies' book of the same name. The film presented Walter Huston playing the role of Mr. Davies and a large cast of actors appearing frankly as Joseph Stalin, Winston Churchill, President Roosevelt, Foreign Minister Molotoff and others. It was vigorously attacked in this country by the so-called Trotskyites and by persons who felt that its interpretation of the Moscow "purge trials" was arbitrary and biased. On the other hand, it was equally praised and supported by liberal and pro-Soviet elements which felt that it served a great cause by promoting an understanding of Russian policies. Unquestionably it marked a distinct step towards political consciousness in the product of Hollywood.

In the same category of propaganda or persuasive motion picture, though received with less controversy, was Walt Disney's remarkable picturization of Alexander de Seversky's book, "Victory through Air Power." Presented in cartoon form, with striking animated ideographs to convey Major de Seversky's thesis, it was both entertaining and enlightening—a highly significant example of the educational film of the future.

CRITICS' AWARDS

Of all the year's interesting films, however, the New York Film Critics, in their annual choice, selected "Watch on the Rhine" as the best. Paul Lukas, who played the leading role in it, was chosen as the year's outstanding actor, and Ida Lupino was named the best actress of the year for her curiously morbid performance in a mediocre film called "The Hard Way." George Stevens was voted the best director for his work on "The More the Merrier," and a special award was given to the Army Signal Corps for "Report from the Aleutians" and its series of "Why We Fight" films, mentioned above.

The leading box-office star of the year, as selected in a poll of theatre operators by the trade journal, *Motion Picture Herald,* was the blonde and curvaceous Betty Grable—a reflection, it might be said, of the contemporary taste for "escape," among the theatre operators, anyhow. Other top stars, in the order of their selection, were Bob Hope, Bud Abbott and Lou Costello, Bing Crosby, Gary Cooper, Greer Garson, Humphrey Bogart, James Cagney, Mickey Rooney, and Clark Gable. The inclusion of Mr. Gable was rather ambiguous, in that he did not appear in a single new picture during the year, having become a member of the Army Air Force in 1942.

SCREEN JOURNALISM

The occurrence of momentous events in the world would seem to have been propitious for news films. Actually, because of censorship by the services and other circumstances, the year was not too well reported in newsreels. The best news films of the year were really the documentaries mentioned above—such films as "Desert Victory," "Report from the Aleutians," and the Russian fact films. Darryl F. Zanuck, formerly a colonel in the Signal Corps, also brought back from North Africa some footage on the Tunisian campaign which was edited into a mediocre fact film, released to all theatres, called "At the Front." However, there were a few sensational news shots of isolated combat action which got into the newsreels during the year, and the news films of action at Tarawa, released within a week after that action, were the best over-all immediate set.

CONTRIBUTIONS TO THE WAR EFFORT

No report on the year would be complete without mention of the contributions made by the motion-picture industry to the war effort in a tangible and characteristically generous way. Through its War Activities Committee, the industry promoted and loaned facilities to the bond drives, to the March of Dimes, and to various other home-front charities. Short films and trailers were made to evoke response from the public through the screen, and solicitors were stationed in theatres to sell and encourage giving. Also, through the Hollywood Victory Committee, screen personalities engaged wholeheartedly in entertaining our military forces both at home and overseas. Forty-three film players took part in 20 entertainment tours to offshore and overseas encampments extending from England to Australia and from the Aleutians to the Middle East. In addition, 122 players appeared in domestic tours.

As a gift to the Army Overseas Motion Pictures Service, the industry contributed several thousand 16mm. film programs, made up of new feature pictures and shorts, for showing free of charge to troops in foreign areas. There was some question as to whether the troops in all areas were seeing the latest films, since reports coming back indicated that old films were most frequently shown. However, the Army gave assurances that it was distributing the new gifts as rapidly and widely as possible, an assurance which seemed to satisfy the industry.

PERSONALITIES

In view of the necessity for replenishing the depleted lists of male stars, more than an average number of newcomers were seen to advantage in the films of 1943. Among them were Sonny Tufts, Barry Sullivan, John Hodiak, Hume Cronyn, Robert Walker, James Craig, Ronald Graham, and Jess Barker. Donald O'Connor and William Bendix emerged from minor roles to highly popular star billings. Jennifer Jones, Esther Williams, Lena Horne, Louise Allbritton, Kathryn Grayson, Susanna Foster, and Nancy Walker were among the young actresses who came into prominence during the year.

From the screen ranks, death took Montagu Love, Charles Ray, W. S. Van Dyke, Conrad Veidt, Sully Marshall, Lynne Overman, Wade Boteler, and Edgar Allan Woolf.

FOREIGN FILMS

Foreign importations were limited during the year mainly to British, Russian, Mexican, Swedish, and a few pre-war French films. Best of the British films were "Desert Victory" and several shorts in the factual category, and "Jeannie," a romantic comedy; "Next of Kin," a fictional spy film geared to the "don't talk" campaign; "Spitfire," a biography of the airplane inventor; and "The Silent Village," a Welsh reenactment of the Lidice tragedy. Outstanding Russian films, aside from the afore-mentioned documentaries, were "Black Sea Fighters" and "We Will Come Back," both on war themes. The Mexican and Swedish films were completely devoid of any contemporary significance.

During the year, there were indications that the film industry was looking anxiously ahead to post-war settlements and their effect upon the foreign film markets. The foreign branch of the Office of War Information was more or less cryptically engaged in the expediting of American films in re-occupied areas of North Africa and Italy and in presenting an inspiring picture of America through films. It was generally conceded that the next two or three years might hold the future of the screen locked in their mists.

PERIODICAL PUBLICATIONS

American Architect
572 Madison Ave., New York City.
American Cinematographer
1782 North Orange Drive, Hollywood, Calif.
American Home, The
44 Madison Ave., New York City.
American Journal of Archaeology
Archaeological Institute of America, Columbia University, New York City.
American Magazine of Art
American Federation of Arts, Washington, D. C.
Antiques Magazine
40 East 49th Street, New York City.
Architectural Forum
20 W. 45th Street, New York City.
Architectural Record
119 West 40th Street, New York City.
Architecture
497 Fifth Ave., New York City.
Art Digest
116 East 59th Street, New York City.
Art News
136 East 57th Street, New York City.
Billboard, The
1564 Broadway, New York City.
Design
243 N. High St., Columbus, O.
Equity
45 W. 47th St., New York City.
Etude
1712 Chestnut Street, Philadelphia.
House and Garden
Greenwich, Conn.
Modern Music
113 West 57th Street, New York City.
Motion Picture Herald
Rockefeller Center, New York City.
Museum News
Smithsonian Institution, Washington, D. C.
Musical Courier
119 West 57th Street, New York City.
Musical Digest
119 West 57th Street, New York City.

Musician, The
139 E. 47th Street, New York City.

Octagon, The
Elmira College, Elmira, New York.

Parnassus
625 Madison Street, New York City.

Prints
1819 Broadway, New York City.

Professional Art Quarterly
18 East 48th Street, New York City.

Theatre Arts Monthly
40 East 49th Street, New York City.

Variety
154 West 46th Street, New York City.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

Academy of Motion Picture Arts and Sciences, Taft Bldg., Hollywood, Calif.

American Academy of Arts and Letters, 633 W. 155th St., New York City.

American Academy of Arts and Sciences, 28 Newbury St., Boston.

American Academy in Rome, 101 Park Ave., New York City.

American Ceramic Society, 2525 N. High St., Columbus, Ohio.

American Federation of Arts, The, Barr Bldg., Farragut Sq., Washington, D. C.

American Fine Arts Society, 215 W. 57th St., New York City.

American Institute of Architects, 115 E. 40th St., New York City.

American Numismatic Society, 156th St. and Broadway, New York City.

American Scenic and Historic Preservation Society, 287 Convent Ave., New York City.

Archaeological Institute of America, Columbia University, New York City.

Architectural League of New York, 115 E. 40th St., New York City.

Artists Guild, 10 W. 47th St., New York City.

Fine Arts Federation of New York, 115 W. 40th St., New York City.

Graphic Arts Board of Trade, 136 Liberty St., New York City.

Hispanic Society of America, The, 155th St., West of Broadway, New York City.

Municipal Art Society of New York, 119 E. 19th St., New York City.

National Academy of Design, 175 W. 109th St., New York City.

National Alliance of Art & Industry, 119 E. 19th St., New York City.

National Assn. of Women Artists, 42 W. 57th St., New York City.

National Institute of Arts and Letters, 633 W. 155th St., New York City.

National Sculpture Society, 115 E. 40th St., New York City.

New York Society of Architects, 101 Park Ave., New York City.

Society for American Archaeology, Illinois State Museum, Springfield, Ill.

Society of Illustrators, Inc., 128 E. 63d St., New York City.

Society of Independent Artists, 19 Bethune St., New York City.

DRAMA

Actors Equity Assn., 45 W. 47th St., New York City.

Actors Fund of America, 1619 Broadway, New York City.

Dramatists' Guild, 6 East 39th St., New York City.

English Folk Dance and Song Society of America, 15 E. 40th St., New York City.

Episcopal Actors Guild, 1 E. 29th St., New York City.

Independent Theatre Owners Assn., Hotel Astor, New York City.

International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada, 630 Fifth Ave., New York City.

International Theatrical Play Bureau, RCA Bldg., New York City.

League of New York Theatre, 234 W. 44th St., New York City.

Motion Picture Producers and Distributors of America, Inc., 28 W. 44th St., New York City.

Motion Picture Producers Assn., Hollywood, Calif.

Motion Picture Theatre Owners of America, 1600 Broadway, New York City.

Museum of the City of New York, Theatre Div., Fifth Ave. and 104th St., New York City.

New York Public Library, Theatre Div., Fifth Ave. and 42d St., New York City.

Screen Actors Guild, 7046 Hollywood Boulevard, Hollywood, Calif.

Theatre Authority, Inc., 545 Fifth Ave., New York City.

Theatre Guild, Inc., 245 W. 52nd St., New York City.

MUSIC

American Federation of Musicians, 570 Lexington Ave., New York City.

American Guild of Musical Artists, Inc., 2 W. 45th St., New York City.

American Guild of Organists, 630 Fifth Ave., New York City.

American Society of Composers, Authors, and Publishers, 30 Rockefeller Plaza, New York City.

Cantors' Registry, 36 E. 7th Street, New York City.

Grand Opera Guild, 250 W. 57th St., New York City.

National Bureau for the Advancement of Music, Inc., 315 Fourth Ave., New York City.

National Music League, 9 E. 59th St., New York City.

Oratorio Society of New York, 113 W. 57th St., New York City.

Philharmonic Symphony Society of New York, 113 W. 57th St., New York City.

DIVISION XXVII

EDUCATION

ELEMENTARY EDUCATION*

By Wilma Leslie Garnett
Professor, Kent State University

THE WAR TREND IN ELEMENTARY EDUCATION

The American elementary school is coming to grips with problems of fundamental significance which have been precipitately forced to the foreground by the war. The public education system in a democracy, as the bulwark of that political ideology, has been shaken by the catastrophic global challenge to democratic nations to defend and champion, or to give up their way of life. The challenge has brought to the searching scrutiny of 1943-1944 thinkers such questions as these about elementary education in its role of Bulwark of Democracy:

Is the democratic way being taught in the elementary school? If so, how effectively?

Is the kind of elementary education offered a powerful agent in the reduction of illiteracy? Should its power be made greater in this respect?

What percentage of the American school population is being overlooked or slighted?

In what ways should the elementary school program be modified to provide new teachings essentially fundamental for children of today who must deal with problems of tomorrow?

Not only educators, but statesmen, military leaders, churchmen, businessmen, labor leaders, and social service groups are aware of these problems, and they are alert in searching for the solutions that will be safeguards of democracy. Through a people educated to be conservative of that in the world heritage worth saving and inspired to be creative in a constructive way can democracy have being. They have been brought sharply to realize that a *laissez faire* policy in regard to elementary education may be the policy that admits the Trojan horse bearing destructive forces into the democratic world. Fortunately the issues of war have made men search to the very sources for causes. The obvious results of German education of youth have made Americans realize that elementary education is a power to be reckoned with. It is a force that needs to have the right kind of direction applied to it. The fact that those who come up under the American elementary education system of today must, by reason of certain global and national circumstances, become world leaders for the immediate post-war era, places upon educators and laymen an imperative for the wise planning of elementary education. The planning can not be done too soon. The interest taken in problems of care and education of children, expressed by the Office of Civilian Defense on Federal, state, and local levels, is significant.

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* The writer is indebted to Agnes Sawyer and Viola Cian for assistance in the preparation of a portion of this review.

The American people know today that the time has come for them to assume a large measure of responsibility for winning a war against foes of democracy and for preserving a peace, one that is based upon recognition of certain freedoms for all men. They know that the keystone upon which the safety of such a democratic structure rests is that of education in the elementary years. Educators and laity are cooperatively at work in the United States today to plan the new order in elementary education. This, it appears, is one of the most significant things about elementary education in 1943.

THE EFFECT OF SHIFTING SCHOOL POPULATIONS

The present concept of American elementary education demands that it lay foundations of understanding for the technical and scientific revolution, air-age geopolitics, and democracy itself. Some of the specific problems with which elementary education is now faced have been caused directly by the war. Shifting of school populations, with the moving about of war-industry workers, has been a major factor in calling the attention of the public in general to the schools. With almost every state in the Union affected in some way, and with sea-coast and lake region states affected in an alarming manner by the influx of small citizens into the cities under the impact of the war, city fathers have had to take cognizance of the need for additional school housing facilities and equipment, the increasing shortage of teachers, and the mounting problems of juvenile delinquency. Never in the history of this nation has so much newspaper and magazine space (in all types of newspapers and magazines) been given to the subject of elementary education in all its ramifications. Not one of the elementary education needs can be neglected if the citizenry is to be ennobled as effectively as democracy demands.

As a concomitant of the boom in war industries, there were, in 1942, 1,500 applications for new school buildings. Of this number, 600 needed immediate Federal aid. Overcrowding of children into classrooms and even the operation of half-day sessions resulted from lack of school-housing facilities and from the shortage in teacher supply. Between 500,000 and 1,000,000 children were involved in these areas seriously affected by the war. By January, 1943, $5,000,000 had been given from Federal funds to alleviate the conditions prevailing in 350 school systems. Three fourths of this amount had been allowed for teachers' salaries. By June, 1943, the amount granted had been at least $5,000,000 more.

Typical results of population shifts may be indicated for the areas under the war impact by this report on Orange, Tex. for January, 1943: The school population had doubled and an additional 100 per cent enrollment was anticipated with the occupation of the 5,000 new-found defense homes. Capital expansion of $1,000,000 was necessary, for which money came from Federal grants as well as from local taxes. Normally the schools of Orange accommodated 1,800. By June, 1943, the number was 7,000. Magazines and newspapers have been full of accounts of population migrations similar to this. Cities in states following the coastline and the shores of the Great Lakes have been hardest hit by the problems of migration.

A social problem inherent in these migratory shifts is one that may demand serious attention. It has not been easy for certain cities to be tolerant and generous with the strangers within their gates. The implication for education is that tolerance must be taught for variance in home cultures if headway is to be made in opening the doors to international friendliness.

TEACHER SHORTAGE PROBLEMS

A graphic portrayal of facts about teacher shortage revealed these details in July, 1943:

In 1942-1943, 390,000 pupils without teachers.

In 1943-1944, 500,000 pupils without teachers.

In 1942-1943, 140,000 new teachers available. (There were 7,500 unfilled vacancies.)

In 1943-1944, 200,000 new teachers available. (75,000 unfilled teaching positions!)

Approximately 217,000 teachers left the profession for more remunerative war work or for the Armed Forces in 1942. For the same period, 65,000 replacements could be drawn from colleges of teacher education. This means that 162,000 positions, if filled, are being supplied with teachers inadequately prepared. Normally this country needs 850,000 regular teachers. Most crucial are the shortages in rural and village schools. In one state (Ohio) 5,000 teachers will be needed for the school year 1943-1944.

One reason for the shortage which can not be overlooked in the postwar planning lies back of this report: Forty per cent of the nation's school teachers are now paid less than $1,200 per year. For 36,000 teachers, the salary (wage) is less than $600. The teachers in cities of over 100,000 fare better, but even there the average salary for elementary teachers is only $2,422. Unless something is done soon to make the salaries of those teachers commensurate with the rise in cost of living, the foundations of democracy will be weakened from within. Internal weakness is more to be feared than the weakness resulting from attacks by an outside enemy.

The educational level reported for the American people gives sufficient proof that the key teacher in building a democracy is the elementary teacher. The report is as follows: Out of every 20 adults (25 years of age or over): seven have completed grade school; three have completed high school; and one has completed college.

TRENDS IN ELEMENTARY SCHOOL POPULATION

No new school population figures have been made available for this report. It may be assumed that the total figures are about the same as those given in preceding reviews of recent years. The next census will probably reveal changes in school population taking place now for which we have not the complete report today. Such changes as these may be expected: Variations in school population for many cities; decreases in rural and village school populations; children drawn away from upper intermediate grades even into war industry; greater nursery school and kindergarten populations; increases in numbers of teachers needed—also in numbers of supervisors, nurses, doctors, educational specialists—to operate the schools running on an all-day basis.

Working children, these statistical reports will indicate some day, are a present school problem. True, the majority of these children are in junior or senior high school, but even upper-grade school attendance is falling off in some places. With the War Manpower Commission calling youth to "piece out the gap" in the labor shortage, plans will have to be made whereby work and school attendance can both be given time out of a child's day. Even illegal employment of children must be counteracted. In 1943, 17 states lowered standards already established for regulating the control of child labor. The crucialities involved in the problem are calling forth cooperatively planned campaigns to protect children. The United States Office of Education and the Children's Bureau have joined forces with the War Manpower Commission in an effort to effect solutions. As already mentioned, this labor problem touches the high school more directly than the grade school, but is having its influence on the upper grades of even the lower school.

NEED FOR ALL-DAY SCHOOL SESSIONS

When it was found necessary to call women into war industry, problems of child care loomed large. All-day care became necessary for many children of school age. The United States Office of Education, as well as the Children's Bureau of the Department of Labor, became interested in giving professional aid in planning for the services demanded by the times. By December, 1940, 10,600,000 women were employed outside their homes. By the end of 1943, the number was probably 18,000,000 or more. As a result of this wide-spread employment of women, about 750,000 children will present problems demanding community attention. The school is the logical institution to be utilized in these programs of protection and supervision. In response to the need, the school's part in over-all community programs of services to children of working mothers, as developed by the United States Office of Education, came into being under the title Extended School Services Program.

The many newspaper clippings about Extended School Services now operating in areas under the impact of the war bear witness to the interest that the American people have in the children of mothers employed in war industries. Indicative of the power of these programs to catch the fancy of the press are the many pictures of children at play and at work in the centers.

Active concern for the welfare of the children of the nation has been generated to a great extent by agencies that recognize the potentials of democracy in the lives of the young citizens. One of the groups most concerned with the protection of children in America is the United States Office of Education. Expression of interest by the Office was made possible in a practical way on Aug. 12, 1942, when a directive issued by Paul V. McNutt, chairman of the War Manpower Commission, calling for the development, integration, and coordination of Federal programs for the care of children of working mothers, placed the function of coordinating all programs of such services in the Office of Defense Health and Welfare Services. The Children's Bureau and the Office of Education were asked to promote the programs professionally. According to the lines of responsibility drawn by the coordinating office, children between the ages two to 14 were to be the chief concern of the Office of Education. On Aug. 28, 1942, the President allocated funds ($400,000) to the Office of Defense Health and Welfare Services for supervisory guidance of the programs.

State departments of education in 42 states submitted plans for Extended School Services to the United States Office of Education during the past year and were, as a result, given professional guidance in building their programs and were allotted funds for use in giving supervisory assistance from the state level to the local communities in need of aid in setting up child-care programs.

OPERATION OF EXTENDED SCHOOL SERVICES

The operation of a program of Extended School Services may be initiated by the Child Care Committee of the local Office of Civilian Defense. A community showing need for day-care centers can apply for assistance from Federal funds. Under the Lanham Act, the Federal Works Agency may make contributions to communities not only for war public works, but for war public services. According to a release made in the spring of 1943 from the Office of War Information:

> "Provision already has been made by FWA for nearly 1,000 child care and war nursery projects in such cities as Vallejo, Calif.; Salt Lake City, Utah; Portland, Oreg.; New Haven, Conn.; Orange, Tex.; Knoxville, Tenn.; Gulfport, Miss.; and Lawrence, Kans. Many others are being recommended by officers for approval.
>
> "Eligible applicants are public bodies, such as boards of education, or nonprofit private agencies. The program is operating on a basis of the Federal Government contributing approximately one-half of the operating cost and the sponsor and the parents together defraying the other half. Applications should be

submitted to a regional director of the Federal Works Agency.

"Federal money is available through the Federal Public Housing Authority for building care centers for children in connection with war public housing projects when facilities are not available, accessible, or readily adaptable in the neighborhood."

A release (May 23, 1943) in the *Sunday Star* (Washington) claimed hat, under the Lanham Act, 2,509 war nurseries and child-care centers or more than 130,000 children of working mothers were in operation. The 130,000 figure should be conidered in relation to the 750,000 figure representing the number needing protection by the end of 1943.)

POLICIES AND PROGRAMS IN EXTENDED SCHOOL SERVICES

The policies governing these grants made the working together of community organizations essentially conditional. State and local Defense Councils were asked to appoint Child Care Committees in all communities ouched by the war. The committees were to include representation from gencies grouped under such titles as Education, Welfare, Health, Employment, Labor, Professional Groups, nd Social Clubs.

All-day sessions ideally conceived may be thought of as communities of young citizens. The "young men and women" run their own penny milk business, library, school post office, nd school supply store. They find in the all-day school opportunities or creative effort in building, dramatizing, painting, writing, experimenting in science on a grand scale. The regular school day provides the usual program that includes the three R's. The Extended School Services include freedom to develop new forms of educational expression under a democratic school set-up.

The United States Office of Education, the Children's Bureau, the Office of Civilian Defense, the Department of Agriculture, and other Federal agencies; state departments in parallel areas; private professional organizations; colleges and universities; individual professionalists—all these have been contributing books and bulletins helpful in giving direction to the new programs. The number of books, bulletins, and brochures is too great to make mention of titles possible. Suffice it to say that these works give practical guidance in such fields as child nutrition, recreational programs, teaching programs, school equipment, school administration and supervision, camping, excursions, art work, and music.

LEGISLATION IN CHILD CARE

In July, 1943, the Federal Works Agency was authorized (H.R.2936) to expend $50,000,000, in addition to what had already been utilized, on the services for children of mothers working in connection with the war. The United States Office of Education and the Children's Bureau are requesting (S.1130) an authorization for the expenditure of $20,000,000 on professional guidance of child-care services and on child-care centers. Hearings are yet to be held on S.1130, the Thomas bill, (October, 1943).

An editorial in the Washington *Post* (Oct. 12, 1943) gives expression to this viewpoint on the Thomas bill:

> "Under the Thomas bill, the task of Federal supervision in connection with child care would be lodged, sensibly, in the Office of Education and the Children's Bureau. These agencies would allocate funds to the States. The actual planning and execution of the child-care program would be in the authorities and nongovernmental welfare associations. Most of the outstanding national organizations concerned with child care have already given their enthusiastic indorsement to the Thomas bill. Forty-two States have already formulated unified child-care programs and are ready to put local plans into action as soon as the measure becomes law."

PROPOSED LEGISLATION FOR EDUCATION

For 20 years educators have been trying to get a bill passed giving Federal aid to education. This year S.637 was made into an emergency measure, under the provisions of which $300,000,000 would be allocated by the Federal Government to the individual states. Of this amount, $200,000,000 would be allocated by the Federal Government as an emergency fund to be given states to increase teachers' salaries. The remaining $100,000,000 was designed to go to the states on the basis of need in an attempt to equalize educational opportunity.

The need of help was so great that, decrying the opposition to the bill, many educators said the fear of Federal control of education was unwarranted. The basic danger of the breakdown of elementary education, that precipitated by the shortage of teachers, could be alleviated for the present by the expedient $200,000,000 authorization, if made, it was claimed by those backing the bill. This bill, sponsored by N.E.A., was sent to the Senate Committee on Education and Labor for reconsideration after the attachment of a special rider to the bill. The revised bill has not yet been reported upon.

SCHOOL LUNCH PROGRAMS

Made possible by the Agricultural Appropriation bill, which included $50,000,000 for milk subsidies and school luncheons, aid is available to non-profit schools conducting non-profit feeding programs.

JUVENILE DELINQUENCY

A period of war seems always to bring with it a period of increase in juvenile delinquency. During the Civil War there was a marked increase in the number of child offenders. During the First World War, large cities like New York, Chicago and Cleveland showed a sharp increase in delinquency of from 17 per cent to 56 per cent in one year; and in Great Britain during the first six months of the Second World War, there was an increase of 50 per cent in delinquency.

Social workers are convinced that we should heed the experience of England and materially increase the facilities for community health, recreation, guidance, and social understanding. With intelligent cooperation between schools and community law-enforcement agencies for dealing with social problems, juvenile delinquency can be dealt with at a point where the first signs of behavior difficulties can be recognized and corrected.

Today, with so many mothers doing war work, there are children of both school age and pre-school age left without any care for several hours each day. The new $50,000,000 appropriation under the Lanham Act is expected to finance hundreds of additional war nurseries and child-care centers. In many towns, the schools are cooperating by making auditoriums, gymnasiums, playgrounds, and other recreation facilities available. Many communities, without any outside help, are using what they can muster locally to foster activities that will interest and care for their youth. Many high school students can take an active part in this program.

WAR'S EFFECT ON ELEMENTARY EDUCATION PROGRAMS

As early as 1942, schools were avowedly changing their programs of education to make room for war services. Assistance was given the Federal Government in salvaging, in rationing, in selling war stamps and bonds, and in raising Victory gardens. The study of the rise of democracy and freedom, the reading of literature related to air geopolitics and that on conditions of living in all other parts of the world, the interpretation of maps and graphs connected with the war, and the application of such fundamental techniques as those taught in the basic three R's seemed natural developments. They even became replacements in some school programs. Health education came into prominence as never before, especially that phase of it connected with nutrition. The study of geography and of the cultures of friend, enemy, and homeland nations was accorded one of the first places in the curriculum. These fields of study, together with a study of the phases of the humanities related to them, an enlivened interest in the sciences and an aroused consciousness of the need for education in ethics—even religious ethics—are finding places in the emerging elementary curriculum. Governmental commissions, professional commissions, and lay commissions are making plans for the new elementary education. These plans reviewed and evaluated will open the way for experimentation in the immediate and near future.

The wartime education program set forth by the National Education Association, January, 1943, stresses these points for the elementary level: schools should lay a good foundation in the fundamental subjects; maintain the greatest possible amount of security, serenity, and self-confidence for children; educate for good health; provide opportunities for community service; expand the program in geography, with emphasis on world citizenship; emphasize the ideals of freedom; offer cultural opportunities.

EDUCATION WEEK

Education Week, 1943, had for its general theme: Education for Victory. The daily topics suggest lines of present interest in elementary education. The topics are: Education for World Understanding; Education for Work; Education for the Air Age; Education to Win and Secure the Peace; Education for Wartime Citizenship; Meeting the Emergency in Education (the teacher shortage); Education for Sound Health; and History and Purpose.

PUBLICATIONS

Titles of magazine articles indicate the lines of new development. *Educational Method* has included articles under these titles during the year: "Geography for Tomorrow's Citizens," "Building a New Understanding of Healthful Living in a Democracy," "Science in the New School," "Freedoms for Children Now," and "The School and the Community."

In the *Elementary School Journal*, the *NEA Journal*, *Childhood Education*, the *Parents' Magazine*, and other magazines devoted to education, with particular emphasis on elementary education, similar topics have been treated. The *Nation's Schools* has called attention to: "Cooperation between Public and Parochial Schools," "Postwar Planning," "We May Be Heading for a Juvenile Crime Wave," "Radio Is a Must," "Higher Pay for Teachers," "A Small School System Takes Over Community Recreation," "War Nurseries," "Hot Lunches for All," and "Teaching Better Living."

Current bibliographies on elementary education and on general problems in education have appeared in the usual issues of the *NEA Journal* and the *Elementary School Journal*.

EDUCATIONAL LITERATURE

New books with special emphasis on elementary education, or with bearing on some phase of that education, are: DeYoung, C. A., *Introduction to American Public Education* (McGraw); National Society for the Study of Education, *Philosophies of Education*; forty-first yearbook; Morgan, J. J. B. *Child Psychology* (Farrar); National Society for the Study of Education, *The Psychology of Learning*; forty-first yearbook; Baruch, D. W. *You, Your Children, and War* (Appleton); American Council on Education, *Selected Educational Motion Pictures* (The Council); Caswell, H. L. *Education in the Elementary School* (American Book Co.); Gray, W. S., ed. *Cooperative Effort in Schools to Improve Reading* (Univ. of Chicago Press); NEA Department of Elementary School Principals, *The Language Arts in the Elementary School* (Univ. of Colorado); American Association of School Administrators, *Health in Schools*; twentieth yearbook (The Association); Evenden, E. S. *Teacher Education in a Democracy at War* (American Council on Education); NEA Educational Policies Commission, *A War Policy for American Schools* (NEA); Greene, H. A., Jorgensen, A. N., and Gerberich, J. R., *Measurement and Evaluation in the Elementary School* (Longmans); Cooper, I. M. *Bibliography on Educational Broadcasting* (Univ. of Chicago Press); Miles, J. R. *Recordings for School Use* (World Book Co.); De Lima, Agnes, and staff, *The Little Red School House* (Macmillan).

SCHOOLS FOR EVACUATED JAPANESE

Under the War Relocation Authority, schools for the Japanese have been located in ten centers. An official statement issued by the Director of Education, War Relocation Authority (Nov. 21, 1943) on the results of and the future plans for the work reads as follows:

> "The War Relocation Authority was established by Executive Order No. 9102 for the purpose of providing for the relocation of persons evacuated from military areas and for maintaining and reëstablishing these dislocated people. As a part of this larger program an educational system was established and maintained providing essential school programs on each of ten projects. These projects are located in Arizona, Arkansas, California, Colorado, Idaho, Utah, and Wyoming. School staff members are federal employees appointed under Civil Service regulations and are paid salaries established under the Classification Act. Because of the administrative necessity of keeping children occupied in relatively crowded confines, schools are operated eleven months out of the year. . . .
>
> "War Relocation Authority schools meet the local State requirements in regard to teacher qualifications, courses of study, and graduation from elementary and high schools. They provide the usual courses needed for admission to local colleges and universities. They also conform to state requirements for attendance. Also it is the desire that students be returned to public schools outside the centers after the war without loss of credit for the time spent in the centers.
>
> "In addition to the regular classroom and vocational instruction for each year leading to graduation from elementary and high schools, a modified summer program providing work opportunities, vocational and avocational experiences, and essential health instruction is definitely part of the total school program.
>
> "All students are given opportunity and are encouraged to acquire some vocational training before graduation from high school. Where feasible, a part of this vocational training is obtained in work-experience in some section of the Center Operations Division, enterprises, offices, institutions, and apprentice training. In this regard, all divisions and activities on the project share the responsibility for formulating and operating this vocational and training program. The placement and vocational and training program of the schools is closely integrated with the employment and production program on the center. Definite responsibilities have been assigned to the schools for some part in the production, operations, and maintenance programs in the centers. The schools are assigned the use of land, equipment, and supplies necessary to carry out these responsibilities.
>
> "Day nurseries to provide supervised play and rest periods for young children are carried on in all projects. These are operated by center residents, under the supervision of a qualified leader. . . .
>
> "The War Relocation Authority has full financial responsibility for and administrative control over the center schools."

NEW DEVELOPMENTS IN ELEMENTARY EDUCATION

Some of the new developments expected may come in reading, radio, and films. In all probability, much will be learned about the techniques of teaching reading from the experiments carried on in teaching men in the Armed Forces to read. Through this program, for which new materials have been devised, illiterates have been taught to read up to the fourth grade level in from six to 13 weeks. Education by radio and film is becoming obligatory, even for elementary schools. Perhaps even television will be in before the schools have gone far with sound films.

INTERNATIONAL EDUCATION

The most promising outlook of all for elementary education in the United States is the hope it has of receiving some professional guidance along international lines from the proposed Institute of International Education. In the preliminary statement of the proposed program for the Institute, if established, appear these items that have bearing on elementary education: (1) "giving advisory service through educational consultants and otherwise on request"; (2) "revising and preparing instructional materials, including textbooks, in consonance with the developing conception of international cooperation"; (3) "training teachers and administrators"; (4) "cooperating in all practical ways to render such assistance as may be feasible in replacing school plants, equipment and personnel."

Bulwarks of Democracy may be strengthened the world over by cooperative international planning for elementary school education. The fourth point of the "Children's Charter in Wartime" (Children's Bureau, Department of Labor, Washington, D. C.) may become a reality through such positive planning: "Conserve, equip, and free children of every race and creed to take their part in democracy."

SECONDARY EDUCATION

By Robert S. Gilchrist
Director, University School, Ohio State University

ENROLLMENT

The enrollment in public high schools in the fall of 1943 was estimated to be 5,761,000. This number is about equal to the total high school enrollment in 1934-35 and represents a decrease of 381,000 pupils or 6.2 per cent from 1942. The number of boys dropped 8.3 per cent; girls 4.2 per cent. The heaviest decline was registered in the last two years of high school. The number of boys enrolled decreased about 15 per cent for these two grades and the number of girls about five per cent. (*Education for Victory*, Dec. 15, 1943.)

Walter Hess, managing editor of the *Bulletin* of the National Association of Secondary School Principals, suggests the following major causes for the decrease in school attendance: decreasing birth rate; attractiveness of high industrial wages; entrance of students into Armed Forces; less adequately prepared teachers; employment of both parents with resulting lack of home guidance.

In 1942, more than 900,000 boys and girls under 18 obtained certificates permitting them to enter full-time or part-time employment. Of these, 156,000 were under 16 (*Bulletin* of the National Association of Secondary School Principals, Dec. 1943).

The Children's Bureau of the United States Department of Labor, the Educational Policies Commission, the War Manpower Commission, and the United States Office of Education issued statements to encourage youth to stay in or return to school. In September, 1943 the school pupils of Los Angeles were given the following "Orders of the Day," issued by Superintendent of Schools V. Kersey and sponsored by ten local, state, and Federal organizations:

"1. Go Back To School.
The armed services, business, and industry demand trained people!
2. Get Your High-School Diploma.
You'll be sorry all your life if you don't!
3. Hold Down A Job.
Learn and earn daily—the Four-Four Plan!*
4. Acquire Skills.
Precision is salable!
5. Be Better Than Average.
Almost is not good enough!
6. Keep Well And Be Strong.
Rigorous times demand vigorous minds and bodies!
7. Strive To Be Cultured.
Life is drab without it!
8. Preserve Spirituality.
"There are no atheists in a foxhole!"
9. Have Some Keen, Clean Fun.
It is part of your morale!
10. Keep Your American Way of Life.
Individual freedom and enterprise are your rights—cherish them!

In many schools, educational authorities worked in close cooperation with the United States Employment Office and industry to guide youth into constructive part-time employment and to safeguard pupils' health while they work. In *Schools and Man Power—Today and Tomorrow,* the 1943 Yearbook of the American Association of School Administrators, school administrators are urged to recognize work experience as a function of the secondary school and to exercise ingenuity in making changes in school organization to permit youth to work at educationally sound jobs under adequate supervision. In San Francisco a committee was appointed to be responsible for the formulation of a work-experience program. This program outline was then given to principals and counselors to serve as a guide during the year.

TEACHER SHORTAGE

Between June 1942 and March 1943 it is estimated that 112,000 teachers left teaching: 39,000 to armed forces; 37,000 to war industry or private employment; 17,000 newly married women (assuming that 18,000 out of 35,000 obtained teaching positions); 6,000 retired (assuming that 500 who normally would have retired did not do so); 1,000 deaths; 5,000 leaves of absence (assuming that 1,500 out of 6,500 reentered teaching during the year); 7,000 other reasons (assuming that 2,000 out of 9,000 reentered teaching).

During the same period 82,000 entered teaching: 37,000 from emergency certificates; 40,000 from teacher education institutions; and 5,000 from ranks of retired teachers. The difference between 112,000 and 82,000 is 30,000 positions! A possible explanation of these vacancies is estimated to be: 13,000 vacant or unfilled positions, and 17,000 decrease in demand (elimination of normal expansion, closed-out positions, doubled-up classes, curtailed curriculum, closed schools, etc. Research Division, N.E.A., March 15, 1943.)

A most discouraging element in teacher supply is the decline of enrollment in teacher education institutions. These institutions have declined 60 per cent from pre-war enrollments. In the same period the number of emergency credentials were increased from 2,300 to 50,000. These statistics reveal an acute manpower crisis in the schools. The situation became even more critical during the remainder of the year 1943. It is estimated that the schools started the year 1943-44 short 68,000 qualified teachers.

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*"The Four-Four Plan operates in every high school in our city—four hours in school, four hours on a real job at standard wages. High schools will arrange your study and work. The war means you must carry a job while you go to school."

Teachers' salaries have risen seven or eight per cent since the war began. But these increases have failed to keep pace with living costs which have risen at least 20 per cent. In 1942-43 10 teachers in every 100 were paid less than $1,200, eight in every 100 received less than $600. (Research Division, N.E.A.)

A bill to provide Federal aid, S. 637, was introduced into the Seventy-eighth Congress by Senators Thomas of Utah and Hill of Alabama. It provided for a $300,000,000 Federal appropriation for education and set up safeguards to put the money under the control of local and state authorities. A major part of this money was designed to raise teachers' salaries. In October the bill was debated in the Senate for five days. An amendment was introduced by the enemies of the bill, presumably to prevent minority group discrimination. The bill was referred back to committee. In the words of the editorial of the *Washington Post* of Oct. 22, the amendment was introduced as legislative trickery to prevent the passage of the bill: "It was not even an open and honest act of strangulation by men willing to stand up and be counted. Instead, it was accomplished deviously, from behind, by legislative trickery. The pious gentlemen involved did not care to leave any fingerprints. First they amended the bill to make it fit their accusations. Then they applied the garrote."

Willard Waller, professor of sociology at Columbia University, in an article "Revolt in the Classroom" in the *Saturday Review of Literature,* Sept. 18, 1943, points out a reason he considers more basic than low salary for teachers leaving the profession:

"The economic return for teaching has always been scandalously low. But I do not believe teachers are quitting their jobs solely on that account. People do not take leave of a profession they love just for a few pieces of silver. The truth is that many teachers were already dissatisfied, and they seized the opportunity to get out of a way of life which they had grown to hate and detest. Even in normal times teacher turnover is high, about one tenth in every year, and professional people do not change at that rate unless morale is low. In analyzing labor unrest in other fields, we have often found that the way workers are treated is as important as the wage in determining the state of their morale. This is just as true of teaching as of any other job.

"There are many teachers who are devoted to their profession and generously gifted by nature for it, but there are also a great many who are fed up and disgusted with their jobs and eager to find some other way, any other way, of making a living. In addition to low wages, we inflict a great many personal indignities and humiliations upon our school teachers, and the very teachers whom the profession most needs, the bold of spirit and the intelligent, are the ones who find this conjuncture of insult and injury hardest to bear.

"We may as well face it: the social status of the teacher is humiliating, and that fact has much to do with teacher unrest. Public figures often indulge in rhetoric about the noble profession, but their words do not represent the real attitudes of the American people. In the minds of the people, the teacher is a slightly ridiculous character who is not quite a man nor a normal woman, for that matter. Even on the national scene, on the highest level of our life, politicians can still make capital out of the fact that some of the bureaucrats are suspected of having once been college professors, although professors have higher standing than other teachers."

PRE-INDUCTION TRAINING

During 1943 secondary schools made a concerted effort to provide appropriate training for those still in school who would soon be in the armed forces. This pre-induction training has been pre-vocational or vocational preparation to give the inductee a foundation for acquiring skill in one of the numerous specialities and preparation for the common needs of all soldiers.

Lieut. Gen. Brehon Somervell, Commanding General, Army Service Forces, emphasized in October, 1943 the necessity for a great number of trained technicians to wage the present highly mechanized war. "Last year" (1942) "65 out of every 100 men inducted into the Army were assigned to duties requiring specialized training. This year," (1943) "90 out of every 100 men are assigned to specialized jobs. A year ago we were getting about 290 men per 1,000 who had civilian skills which fitted them for Army jobs. Now we are getting less than 180 men per 1,000." (*Journal* of the National Education Association, October, 1943.)

The common needs of all soldiers have been determined and announced only after careful analysis made by educators and the Civilian Pre-induction Training Branch of the War Department. Educators actually lived at camp while making a study of these needs. Briefly stated these needs are: understanding the issues of the war; understanding the nature of military life; being physically fit; having command of basic language skills; being able to compute with accuracy and assurance.

For approximately 80 per cent of the boys the pre-induction training has been emphasized to be highly desirable. During 1943 the Army Specialized Training Program was established to supply the Army's need for men qualified to become officers and who possess advanced training in fields such as medicine, engineering, language, sciences, and mathematics. The plan as set up was to have 150,000 men continually in training in the program. This meant that approximately one out of five high school graduates will be needed. The boys selected for this program are those with interest and abilities which fit them for specialization in professional fields. The Army suggests that they need four years of mathematics in high school if possible, physics and another science, English and a modern language.

When the special needs of the Navy and of girls who will enter industry upon completion of high school are considered by the secondary school, in addition to the needs as outlined by the Army, the stupendous task of adapting the curriculum to meet wartime demands becomes apparent. In addition the secondary school has been called upon to help keep the home front strong. Salvage drives, bond and stamp sales, issuance of ration coupon books, assistance in harvesting crops and various community services, these activities and many similar ones have been considered legitimate enterprises for the secondary school. To assist the local schools in curriculum modifications and adoption of various wartime activities the High School Victory Corps has been developed.

An outstanding illustration of wartime curriculum adaptations is found in the pre-flight aeronautics program inaugurated by the Civil Aeronautics Administration in cooperation with the Office of Education and the Military Air Services. With the Army and Navy Service scheduled to take approximately 40 per cent of the boys leaving high school, the importance of special attention to aeronautics became obvious. It is estimated that pre-flight aeronautics courses were offered in half of the nation's high schools in 1942-43 and enrolled 250,000 students.

THE HIGH SCHOOL VICTORY CORPS

In September 1942 the High-School Victory Corps was launched. Its objectives and organization plan were developed by a national policy committee representing the armed forces and professional education organizations. This committee met every two weeks to consider new requests for high school cooperation in various war programs.

Two objectives were set forth for the High-School Victory Corps program: training of youth for the war service that will come after they leave school; active participation of youth in the community's war effort while they are yet in school.

In line with these objectives, the Victory Corps National Policy Committee identified eight important wartime aims for the high school. They were: 1) Guidance into critical services and occupations; 2) Wartime citizenship; 3) Physical fitness; 4) Military drill; 5) Competence in science and mathematics; 6) Preflight training in aeronautics; 7) Preinduction training for critical occupations; 8) Community service. Explanatory bulletins and pamphlets were written on each of these objectives.

Specific course outlines were developed through cooperation of the War Department and the United States Office of Education in: (1) Fundamentals of Electricity; (2) Fundamentals of Machines; (3) Fundamentals of Shopwork; (4) Fundamentals of Radio; and (5) Fundamentals of Automotive Mechanics.

Other course outlines have been developed for other phases of military service which could benefit from pre-training in the high school, such as "Army Clerical Procedures" and "Driver Education." In addition, either through separate publications or in "Education for Victory," the biweekly magazine published by the Office of Education, suggestions and recommendations have been issued on agricultural training, communication arts, English, wartime citizenship, correspondence courses, and guides to wartime materials. It is estimated that by July, 1943 more than 70 per cent of the high schools of the country voluntarily adopted the Victory Corps program. The High-School Victory Corps symbolizes the wartime adaptations of the secondary school.

LIQUIDATION OF N. Y. A.

On the final day of the first session of the Seventy-eighth Congress the National Youth Administration was liquidated when the House Committee on Appropriations by a margin of one vote refused to provide funds. Paul Jacobson, principal of the University of Chicago High School in commenting on the death of the N.Y.A. states:

"What have been the accomplishments of the N.Y.A. during its eight years of operation? . . . More than 1,500,000 high-school boys and girls were enabled to continue in school through the six dollars a month that they could earn. Even in 1942-43, when the national income was the highest that it has ever been, the average annual income of the families whose children receive help from the N.Y.A. at the high-school level was $765. . . . The second value of the N.Y.A. was that it enabled thousands of young people—nearly 2,750,000 different young persons, according to N.Y.A. statistics—to learn marketable skills. The agency concentrated its efforts in areas where facilities for learning such skills were most inadequate. For these two reasons many educators, including this editorial writer, supported the agency, recognizing that its personnel was human and mistakes inevitably would be made. . . .

"What will happen after the war? . . . Some form of youth program will inevitably emerge after the war. Now is the time for educational statesmen to offer help in planning that program." (*School Review,* October, 1943).

ACCELERATION

The Educational Policies Commission adopted the following resolution late in 1942: "We urge that, during the war emergency, selected students who have achieved senior standing in high school and who will, in the judgment of high school and college authorities, profit from a year's college education before they reach selective-service age, be admitted to college and, at the end of the successful completion of their freshman year, be granted a diploma of graduation by the high school and full credit for a year's work towards the fulfillment of the requirements for the Bachelor's degree or as preparation for advanced professional education." (*Bulletin* of the National Association of Secondary-School Principals January, 1943.)

During 1943, especially the first half of the year, college and secondary educators debated vehemently the merits and weaknesses of the above resolution. Many high school administrators accused the college of being primarily interested in acceleration for financial reasons. Some college authorities retaliated that high schools would be more willing to consider the proposal if they were not so anxious to keep up enrollments, the basis for state financial aid. Secondary school principals had difficulty in understanding the sudden interest in colleges in accepting high school juniors when for years institutions of higher education have decried the inadequate operation of high school graduates.

Early in 1943 the Executive Committee of the National Association of Secondary-School Principals recommended as a war policy for secondary education the following resolutions: "The National Association of Secondary School Principals recommends that all students in the high school, or secondary school, not immediately subject to the provisions of the Selective Service Act, remain in the high school and complete, if possible, the full wartime program of studies offered by the high school and thereby qualify for graduation from the high school. It believes that the many wartime curriculum offerings of the high school provide for youth not yet eighteen years of age the best preparation and training for future services in the armed forces and for the production of essential war-time materials and foods." (*Bulletin* of the National Association of Secondary-School Principals March, 1943).

Acceleration on the high school level has not been widely practiced. Some secondary schools permitted selected students to enter college before completing their usual high-school requirements. Acceleration has largely been conceived as completing the same amount of course work in less time. Some experts believe that to be only one type of acceleration. "Acceleration of the total physical, emotional and intellectual growth of the student must be considered," they say.

CREDIT FOR MILITARY EXPERIENCE

During 1943 secondary school principals were confronted with problems of credit for students who entered the armed forces before graduation. Existing regulations for qualifying for a high school diploma did not cover the various new situations. Boys were enlisting or being inducted in the middle of the first semester of the junior or senior year. Many of these students were interested in getting a diploma as soon as possible. Others will undoubtedly want to have a high school diploma as they seek employment after the war.

To avoid the chaotic conditions which would grow out of different and inconsistent practices in the various states and localities and to make it possible for members of the Armed Forces to use in civilian life the results of their educational experiences in the military, the National Association of Secondary-School Principals appointed a committee to develop recommendations on policies and practices on granting of credit. This report was issued in October, 1943 and includes a discussion of educational opportunities in the armed forces, suggests ways in which schools can work with the United States Armed Forces Institute in evaluating educational experiences in the services, and a proposed program for granting secondary-school credit. The recommendation is made that the maximum amount of school credit to be granted to anyone merely for being in the Army or the Navy should be not more than one semester of school work and that this credit be given after the student has successfully completed his basic training.

POST-WAR PLANNING

A veritable flood of reports and recommendations on post-war education was issued during 1943. Throughout all of them ran a common theme expressed succinctly in Education and the People's Peace, a pronouncement of the Educational Policies Commission: "For as surely as the earth turns, force and violence shall be the law; and wars of cataclysmic destruction shall be the penalty; and blood and tears shall be the inheritance of that people who neglect to learn and to teach that the earth has grown smaller, that all men on it are fundamentally alike, that no human being need now lack food or shelter, and that science has made it necessary for men to live at peace if they want to live at all." In this document the Commission proposes the conscious and systematic use of organized education to help establish and maintain the peace after the war.

The International Educational Assembly held at Harpers Ferry, W. Va. in September, 1943 in which representatives of 29 nations participated, and the Conference of Ministers and Directors of Education of the American Republics which assembled in Panama City the same month, are indicative of recognition by educators of the international character of many of the problems facing the schools.

Specific post-war proposals for secondary education are included in the Report of the National Resources Planning Board. In the chapter "Equal Access to Education," 15 recommendations are made and their implications discussed. The proposals most closely related to secondary education include: Equal opportunity of education for all ages to meet the needs of a democratic society; Education of kindergarten and nursery age children; Special education for those who need it; Rehabilitation or "continuing" education for armed forces discharges; camp facilities for all youth of low elementary grades including work experience in camps; and Distribution of state and Federal funds on basis of need in order to reduce inequalities of the educational tax burden.

There was wide difference of opinion among both educators and laymen in their evaluation of the effects of the war on the curriculum. Some individuals are afraid the secondary school will become too highly a vocational and technical institution. For example, E. B. White, writing in *Harpers Magazine* criticizes the pre-induction objectives of the High-School Victory Corps. He would much rather that the secondary curriculum be made up of history, English, philosophy, foreign languages, and art. Henry Holmes of Harvard University resolves the seeming vocational-general education conflict in this manner:

"*Secondary education must be thoroughly vocationalized.* We have not prepared enough skilled workers for the army and navy in this war. We have never prepared enough for the constructive work to be done in peace; but that is partly the fault of an economy that did not provide enough jobs. . . . The senior high school has not done its duty unless it has given each of its graduates a marketable skill *or* preparation for an education which leads thereto on a higher level *or* occupational adjustment to the opportunities and requirements of unskilled work.

"*The secondary school should seek and exercise greater selective power.* It should insist on standards in courses leading to vocational objectives, including post-collegiate objectives. . . . Liberal education can not be saved by keeping vocational training out of the schools; it can, however, be not only saved itself but made into a mighty instrument for the saving of the nations, if it is done by inspiring teachers, who can blow away the academic dust with which liberal studies are too often covered." (*Bulletin* of the National Association of Secondary-School Principals, March, 1943.)

Lieut. G. O. Blough, an educator now in the Navy writes in the September, 1943 issue of the *National Education Association Journal:* "Teach them to look at a matter from every side before they pronounce conclusions. Teach them to observe, to be accurate and careful in their observations and statements. Teach them to search for truth and to be able to recognize it. Teach them the meaning of cause and effect. Teach them not to be superstitious."

Undoubtedly post-war secondary education will be tremendously influenced by actual practices which the emergency has forced schools to adopt. It would seem that the war is affecting secondary education in at least these ways: Stronger school and community inter-relationships; Recognition of guidance as a continuous, comprehensive, inter-woven function of the school curriculum; A more critical examination of the curriculum in terms of whether or not it is meeting the needs of individual youths; Use of varied resources and teacher-pupil planning rather than "textbooks" and prescribed courses of study in promoting the learning process; Greater concern for the physical and emotional health of the individual; Increased demand for state and Federal aid to insure equal educational opportunity for all youth; and Recognition that work experience is a function of the school.

HIGHER EDUCATION

BY ALONZO F. MYERS*
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COLLEGE AND UNIVERSITY WARTIME ENROLLMENTS

For the third successive year, college and university enrollments of civilian students in 1943 register a sharp decline. Considering the higher institutions as a whole, this decline was approximately balanced by the assignment of more than 300,000 Army and Navy personnel to study on college and university campuses. Thus total enrollments of civilian and service students were about equal to the shrunken enrollment figures for 1942. It should be pointed out, however, that only 440 of the approximately 1,800 higher institutions of the United States have been utilized by the Army and the Navy in their training programs. About three-fourths of the nation's higher institutions have not benefited appreciably, if at all, by the assignment of service men to colleges. They are having an exceedingly difficult struggle for existence. Most of them will get through the current academic year. How many could survive another year of war is unpredictable. Certainly many could not survive without large-scale assistance.

President Raymond Walters of the University of Cincinnati, who each year surveys enrollment figures for colleges and universities, reported in *School and Society* (Dec. 25, 1943) "as of November, 1943, six hundred and seventy-four of the institutions which reported both last year and this year, had 460,849 full-time civilian students, as compared with 750,454 in the same institutions in November, 1942, a decrease of 38.6 per cent."

Enrollment of civilian men has, of course, dropped sharply. This was inevitable with the passage one year ago of the 'teen age draft bill. The United States Office of Education reported in the fall of 1943 a decrease as compared with 1942 of 65 per cent in attendance of men and a decrease of 5 per cent of women in non-military enrollments in 497 colleges and universities. Enrollment losses of men in graduate schools ranged from 10 to 60 per cent below the low figures of 1942. In university law schools there are a mere handful of men. Although industrial plants doing war service are in great need of engineers, the prospective supply is markedly curtailed. The number of full-time civilian students in 42 independent technological schools shows a loss of

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* The writer is indebted to graduate students in his course Higher Education and the War for valuable assistance in the collection of materia for this article. He also is indebted to President Raymond Walters and to *School and Society* for statistics of attendance in universities and colleges.

8 per cent. There was a decrease of 9 per cent in the total of first-year civilian engineering students in 106 universities, colleges, and technological schools. The liberal arts are in abeyance for the duration so far as men students are concerned.

MILITARY STUDENTS AND HIGHER EDUCATION

The War and the Navy Departments have entered into contracts with colleges and universities for the training as well as for the feeding and housing of soldier and sailor students. These contracts are so designed as to guarantee that no institution will reap a profit from this work. The only possible financial advantage to them will be in keeping faculties busy and physical plants in operation. For instruction, institutions are receiving payment upon a basis of requiring more hours per week and more students per class than the usual faculty load. For feeding, an allowance is made which is based upon actual costs in the immediate region. For the use of classroom buildings, laboratories, dormitories, and other essential buildings, the payment by the Federal Government is 2 per cent of their established value for rental, and 2 per cent for depreciation.

Some notion of the importance as well as the variety of the educational services being rendered to the military establishment by the colleges and universities through the specialized training program can be had by the following analysis of types of programs: basic army, basic navy, engineering, advanced engineering, pre-medical, medical, dental, foreign area and language, Naval R. O. T. C., advanced Army R. O. T. C., veterinary, personnel psychology, advanced technology, and miscellaneous. In all of these programs, between 300,000 and 400,000 Army and Navy personnel were enrolled on college and university campuses at the end of 1943. Between 30 and 40 per cent of all college and university students are in uniform.

WOMEN AND THE COLLEGES

The liberal arts would be in almost total eclipse if it were not for the women. The large enrollment of college women is the outstanding feature of the 1943-44 college year. In five broad fields of study (arts and science, engineering, commerce, agriculture, and teacher education) there are 92,240 freshman women in representative institutions as compared with 86,234 in 1942, a gain of 6.5 per cent; whereas there are only 48,609 freshman men in these fields, as compared with 130,143 a year ago, or a loss of 62.6 per cent. In general, in undergraduate courses, particularly arts and science, of both colleges and universities, there is an upward surge, or at least a stabilized enrollment of girls, a great majority of whom are below the 21-year age requirement of Army and Navy auxiliary organizations. Enrollment in colleges for women is particularly good. Of 95 colleges for women, 59 report enrollment increases of 5 to 35 per cent, 24 hold the same enrollment as in 1942, and only 12 have small decreases.

PLIGHT OF THE SMALL COLLEGES

It seems clear that if the present policy of the Federal Government of assigning liberal quotas of service personnel to colleges and universities is maintained at approximately its present level (something that is not at all certain), the institutions that have Army or Navy training program contracts will be able to survive. In the main these are the larger of our higher educational units. The situation relative to the distribution of these army and navy contracts is presented in the table next page.

The situation relative to survival of the approximately three-fourths of the colleges that have no Army or Navy contracts, and, through no fault of their own, have no chance of getting such contracts, is far from clear. Colleges are notoriously difficult to kill. Nevertheless, many of them have already reached the point at which they have little if any visible

Types of Institutions	Number of Institutions	Number Approved by Joint Committee	Percentage Approved by Joint Committee
1. Universities and large institutions of complex organization	105	104	99%
2. Other colleges and universities	575	220	38%
3. Teachers Colleges	222	62	28%
4. Professional and technological schools	269	38	14%
5. Colleges for Negroes	109	9	8%
6. Junior Colleges	594	21	4%
Totals	1874	454	24.2%

From a table prepared by Walter S. Eells in the October, 1943, Volume 29, No. 4, *Bulletin* of the American Association of University Professors.

means of support. At present it can be said that there is no program that has any chance of being adopted which promises to provide these smaller colleges with the assistance which many of them will need if they are to survive beyond the current academic year. This is true in spite of the fact that there appears to be general agreement that the small colleges have made a significant contribution to American life throughout our history, and that their services unquestionably will be needed after the war.

The situation is complicated by the following factors: (1) the shortage of manpower and womanpower for the armed services, war industry, and essential civilian occupations; (2) the attractiveness to young people of war jobs at good rates of pay; and (3) reluctance of the colleges to accept direct governmental assistance for fear of governmental control. A proposal has been made by Dr. Walter S. Eells, executive secretary of the American Association of Junior Colleges, for the establishment of a Smaller Colleges Corporation, somewhat comparable to the Smaller War Plants Corporation. The adoption of such a proposal by the Congress of the United States might save the small colleges. It is highly doubtful, however, that such action will be taken.

HIGHER EDUCATION ON A WARTIME BASIS

In the main, the higher institutions of the United States have completed the difficult task of conversion from peace to war. This adjustment has not been an easy one to make. On some campuses, soldiers, sailors, marines, and aviation cadets have entirely replaced civilian students. Since 1940, the total number of civilian male students has decreased from about 800,000 to 229,000, with nearly 400,000 male students in uniform on the campuses. Princeton University may be fairly typical of the manner in which war has changed liberal arts colleges for men. After two years of war, the Princeton campus has the appearance of a military installation. The civilian enrollment has been reduced to 600, a 75 per cent drop from normal peacetime enrollment, although the total enrollment is about one-third larger than it has ever been before. Colgate University's civilian enrollment has dropped to 107, while the total number of men on the campus is above the peacetime maximum of 1,000.

The traditional four-year undergraduate course has been telescoped to three years or less. The colleges have made many adjustments in their curricula and course offerings to enable their civilian students to prepare themselves for greater usefulness in the war effort. College and university research and testing laboratories are entirely at the disposal of the Government, and have made noteworthy contributions to the war effort.

MEDICAL EDUCATION

The medical schools now operate

on a 12-month basis, telescoping the four year's work into three years. Because of wartime demands for more doctors, the medical colleges are admitting 8,500 first-year medical students each year for the duration of the war. Of this number, the Army will allocate 55 per cent, the Navy 25 per cent, and the remaining 20 per cent will go to civilian students. In normal peacetime years the medical schools of the country admit about 7,200 students. Under wartime standards, it is possible for students to complete their full post-secondary preparation for medicine in about five years. Normally the medical student spent ten years in school and in the hospital before he had completed his professional training. Today he spends 15 months in his pre-medical studies, three years in medical college, and nine months as an interne. Unquestionably the medical school facilities and staffs are being seriously axed. Increasingly, medical educaors are raising serious questions relaive to the adequacy and thoroughness of the medical training that can be given under present conditions.

TEACHER SHORTAGE

The continued decline in the number of students preparing for teaching is bound to have serious consequences for the nation's public schools for several years after the war is ended. Teachers have been leaving their classrooms to enter military service or to take war jobs in ever increasing numbers. This exodus from the classrooms has been aggravated by the failure of teachers' salaries to keep pace with rising living costs. Past experience would indicate that many of these teachers will not return to teaching at the end of the war. Thus at a time when we have an unprecedented demand for new teachers, the supply is lower than it has been since before the First World War.

DEPARTMENT OF HIGHER EDUCATION IN THE N. E. A.

In February, 1943, at St. Louis, the National Education Association formally reestablished its Department of Higher Education. At this meeting a constitution was adopted and officers were elected. President H. B. Wells of Indiana University was elected the first president of the Department. Higher education was one of the four original Departments of the N.E.A., but this Department was discontinued in 1942 because of lack of interest. The decision to reestablish this Department was made as a result of a petition signed by several hundred presidents, deans, and professors.

The objectives and purposes of the Department as adopted at the St. Louis meeting are: to serve N.E.A. members in higher education through research, public relations, and committee services; to promote cooperation among N.E.A. Departments and other groups interested in higher education and to provide headquarters facilities; to improve the relationship between higher education and elementary and secondary education; to assist in unifying the entire teaching profession in all its branches and levels into one great professional organization; to promote and protect the interests of higher education; to make opportunities for higher education more widely and equitably open for all qualified persons; and to facilitate the interchange of views and the development of common policies among all persons and groups engaged in higher education.

THE OUTLOOK FOR HIGHER EDUCATION

During the latter half of 1943 there was a marked increase in interest and activity on the part of those engaged in higher education in regard to the future of higher education in the United States following the war. Perhaps a majority of colleges and universities have established post-war planning committees. There is a firm determination that the liberal arts shall not remain permanently in eclipse. At the same time, many individuals and groups are studying the liberal arts curriculum with a view to the elimination of that which is outmoded, and to making liberal education more truly functional in the lives and activities of those who are its recipients. It must be admitted that there is great divergence of opinion as to what needs to be done to improve liberal education.

At the peak enrollment in colleges and universities of all kinds, which was reached in 1939-1940, there were approximately 1,400,000 students enrolled. This number has now declined to not more than 1,100,000, including military personnel. It has been estimated that in the first post-war year there will be not fewer than 2,000,000 students on the college campuses of the country. Probably this estimate is too conservative, especially in view of present plans in the form of legislation before Congress to provide at governmental expense one year of education or training to service personnel, including the Merchant Marine, who desire it. It has been estimated that close to 10 per cent will wish to take advantage of this opportunity if it is provided. It seems probable that the next two decades will witness an expansion of higher education that will be at least comparable to the expansion which occurred during the two decades between the First World War and the outbreak of the present war.

EDUCATION FOR THE PROFESSIONS

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BUSINESS EDUCATION

The opportunities for office workers, teachers of business education subjects, and individuals qualified to serve in accounting, statistical, and administrative capacities continued to increase during 1943. This resulted in decreased enrollments in most private business schools and in the majority of business departments of colleges and universities. Since some of the higher educational institutions are cooperating with the Army and Navy in training service men and women for various types of business positions in the armed forces, many business teachers are serving as instructors for the Army and Navy. Some teachers are working as civil service employees, some as enlisted or commissioned personnel of the Army or Navy, and a few as civilian staff members of a college or university having a contract with one of the military agencies.

The problems of rehabilitation of war veterans and post-war planning were discussed at some of the business education association meetings held during the year. The uncertainty of what government agency or department would be in charge of rehabilitation work tended to postpone the development of plans in some instances and the publication of plans in other cases. Most of the post-war discussion occurred during the latter part of the year, and one of the questions most frequently debated was the extent to which certain procedures used in training men and women for the Army, Navy, or war industries could be adopted or adapted for use in high school and college courses after the war has been won.

Production of certain war materials was curtailed during the closing months of 1943, and this resulted in a decrease in some areas in the demand for individuals with business and office training. However, the operation of the Selective Service Act and the increased demand in some sections of the country for those with business education backgrounds aided in maintaining opportunities for employment.

Shortages of consumer goods, rationing, and the use of substitute materials continued to be as urgent problems in 1943 as they were in 1942. High labor turnover and restrictions on the use of credit and delivery services were additional problems in the distribution of goods. The distributive education program financed by the Federal Government completed its sixth year on June 30, 1943 and continued to provide leadership in the solution of distribution problems.

ENGINEERING EDUCATION

War Training Program.—The September, 1943 issue of *The Journal of Engineering Education* included the following statement in an article by Dean A. A. Potter of the School of Engineering of Purdue University: "Since October 9, 1940 when the first appropriation was made by Congress for Engineering Defense Training under the auspices of the United States Office of Education, more than one million people have been trained, through in-service and pre-service courses, given primarily by engineering colleges, for direct service to our war industries." The benefits of the war program are stated as including additions of engineering college equipment, especially in the fields of electronics and Diesel engines at Government expense, and better understanding between engineers and industrialists brought about by cooperation in offering intensive courses needed in training for certain industrial positions. It is also suggested that in-service training programs have aided engineering teachers and schools to become aware of the problems facing local industries. The desirability of continuing some technical instruction on the post-secondary school level is mentioned as necessary to meet a need that formerly was not met by the vocational school on the one hand or the engineering college on the other.

Enrollments.—President Raymond Walters of the University of Cincinnati reported in the Dec. 25, 1943 issue of *School and Society* that there was a decrease of 62 per cent in the total number of freshmen civilians enrolled in first-year engineering classes in 141 colleges, universities, and technological schools. President Walters also found that the number of enlisted men in the Army Specialized Training Program studying advanced engineering was 14,519 and the number of enlisted Navy trainees studying engineering was 13,922. The June issue of *The Journal of Engineering Education* indicated that the total of all engineering freshmen (civilian and military) for the school year 1942-43 was 40,869 which constituted an increase of 17.6 per cent in comparison with 1941-42. The same source also listed the total number of engineering students in 166 institutions as of October 1942 as 111,713 and the total number of faculty members as 5,826. The October issue of the same journal points out that during the past ten years less than 25 women have received engineering degrees each year. Under the accelerated program it is now possible to earn a B. S. in Engineering in 2⅔ or three calendar years.

Society for the Promotion of Engineering Education.—The June 1943 meeting was almost entirely devoted to the consideration of war programs now in operation and educational and research problems growing out of war and post-war society. The meeting commemorated the fiftieth anniversary of the Society's founding and representatives of 110 of the 150 institutions now belonging to the organization were present. President Henry T. Heald presided and President Robert E. Doherty, Carnegie Institute of Technology, was elected president for the school year 1943-44.

LEGAL EDUCATION

Law Schools.—The law school enrollments in the United States for the academic year 1942-43 declined from the previous low total which occurred in March 1943. The total enrollment in the 110 schools approved by the American Bar Association was reported by the Section of Legal Education and Admissions to the Bar to be 4,800 in the fall of 1943. The comparable enrollment in September 1942 was 7,887 and in March 1943, 5,686.

The American Bar Association, on

the recommendation of the Council of the Section of Legal Education and Admissions to the Bar, granted full approval, during 1942-43, to St. Paul College of Law, St. Paul, Minn.; Hastings College of Law, San Francisco; and Washington College of Law, Washington, D. C.

Eight law schools have suspended instruction for the duration of the war owing to decline in enrollments. The eight are: University of Santa Clara College of Law, Santa Clara, Calif.; John B. Stetson College of Law, DeLand, Fla.; Mercer University Law School, Macon, Ga.; Lincoln University School of Law, St. Louis; St. Louis University School of Law, St. Louis; University of Nebraska, College of Law, Lincoln, Neb.; Baylor University School of Law, Waco, Tex.; and the University of Wyoming Law School, Laramie, Wyo.

Advanced Legal Education.—This committee which has continued to encourage post-admission legal education in the face of many obstacles in recent years is now working on a plan to aid practicing lawyers who are not able to attend the organized courses which are usually given in large cities. The chairman is Carl B. Rix of Milwaukee.

Refresher Courses.—The Council of the Section of Legal Education and Admissions to the Bar is studying the problem of the individual who is returning from military service and who has been admitted to the Bar but has not yet engaged in the practice of law. Many members of the Bar believe that law schools should establish or continue programs designed to refresh these persons in the principles of law and teach them the changes in the law since the entrance of the United States into the war.

Officers and Committees.—The Chairman of the Section of Legal Education for 1943-44 is Albert J. Harno of the University of Illinois Law School, and the acting adviser is Russell N. Sullivan of the same institution. In addition to the committees mentioned in this account special committees for 1943-44 are entitled: Aims and Objectives, Pre-legal Program, Admission Requirements, Aid to Veterans in Obtaining Education, Apprenticeship and Probationary Plans, and Cooperation with State Bar Association Committees on Legal Education and Boards of Law Examiners.

MEDICAL EDUCATION

The Accelerated Program.—The great majority of the medical schools in the United States followed an accelerated program during 1943, providing for the admission of a new class about every nine months and the completion of the medical curriculum in three calendar years. The shortening of the program has been made possible by eliminating vacation periods. Neither the content nor the total classroom, laboratory, and clinic hours has been reduced. The three schools that do not follow the schedule outlined above are the University of Michigan Medical School, the Woman's Medical College of Pennsylvania, and the University of Tennessee College of Medicine. Each of these schools is operating on an accelerated program which differs in some manner from the plan followed by the majority of the institutions.

The Council on Medical Education and Hospitals of the American Medical Association estimated that, of the almost 20,000 medical students signed for military service, about three-fourths of them held Army commissions and the remaining one-fourth Navy commissions. The Council further stated that those holding commissions comprised approximately 87 per cent of the medical students in the United States. The dates of admission and dates of graduation vary from school to school, so that some students will be completing their medical courses in every month of 1944 with the exception of May and November.

Medical Licensure.—At the close of 1942 seven states had not adjusted laws or regulations to admit to licensure graduates of recognized medical schools who had followed an accelerated program. All of the states have now made the necessary changes in laws or regulations to enable graduates of accelerated programs to be eligible for admission to licensure. Alaska, Hawaii, Puerto Rico, and the District of Columbia have also made such changes as were needed for this purpose.

Medical examining boards examined 7,180 persons during 1942, and 15.4 per cent failed to pass. Only 2.4 per cent of the graduates of approved medical schools in the United States who were examined failed, but the percentage of failure for those attempting the examinations who had graduated from medical schools no longer in existence was 5.4. The percentage of failure was higher among graduates of Canadian schools than among graduates of schools in the United States, and about 45 per cent of those who had received their medical education outside the United States and Canada did not pass.

Nineteen states have ruled that individuals holding credentials obtained outside the United States and Canada are not eligible for licensure. Citizenship is required by 18 states, and Alaska, Hawaii, and Puerto Rico as a prerequisite for the examination, and nine states insist on naturalization papers before an applicant is permitted to attempt the state board examination. A senior year's work in an approved medical school in this country is a requirement established by five states, and a one-year internship in a United States hospital approved for the training of interns is stipulated by 16 states, and Alaska, Hawaii, and Puerto Rico.

Internship.—Only six medical schools in the United States list the internship as one of the qualifications for graduation, but 22 states, and Alaska, District of Columbia, Hawaii, and Puerto Rico require the hospital internship of all candidates for medical licenses. While Delaware and Pennsylvania have recently reduced the required internship to nine months, Montana and Nevada have added the one-year internship.

Preliminary Education.—Students who have had two years of pre-medical training and have successfully completed the medical curriculum are eligible for admission to licensure in all the states. Under present conditions the work is sometimes completed in less than two calendar years, but the Army and Navy programs include more semester hours than are usually completed in two college years. This is made possible by the omission of vacations, so state authorities will probably not raise objections. Up to the academic year 1941-42 most medical schools insisted upon more than two years of pre-medical training for entrance. At the present time all of the medical schools have agreed to accept the Army or Navy pre-medical curriculum for those students in the Army A. S. T. P. or the Navy V-12 programs. Minimum admission standards for civilian students are still published by most medical schools, and they vary from less than two years to a degree from a four-year college.

Enrollment and Graduates.—During 1943 there was an increase in the number of individuals studying medicine in the 76 schools in the United States of approximately 2.7 per cent in comparison with the enrollment in the academic year 1941-42. The total enrollment for 1943 was 22,631, according to the Council on Medical Education and Hospitals. The number of graduates between July 1, 1942 and the beginning of the first session in 1943 was 5,223. Some medical schools started their first 1943 session in January and some did not begin until July. It is estimated that 10,889 persons will graduate during the period from the beginning of the first session in 1943 and January 1945, and that 4,500 will complete the medical curriculum between January 1945 and July 1945.

The number of women graduating from medical schools in the United States during 1943 was 241, and the number of women enrolled during the academic year 1942-43 was 1,150. The number of women graduates and students has not varied greatly since 1936.

Improvements in Medical Schools.—The basic medical curriculum has not been changed, but some subjects have been given greater emphasis or have been added in some schools. The subjects receiving this increased attention include Aviation Physiology and Medicine, Burns and War Wounds, Chemical Warfare, Chemotherapy, First Aid, Industrial Medicine and Public Health, Military Medicine, Shock and Blood Substitutes, Tropical Medicine and Parasitology, and Venereal Diseases. A number of schools have improved their clinical facilities, and there is a tendency to increase ward work and outpatient assignments in clinical teaching. Two other tendencies are, first, to break down the wall between "clinical" and "preclinical" instruction, and second, to bring about more interdepartmental cooperation and collaboration in the teaching of certain material such as a system or an organ. Some schools have reported to the Council on Medical Education and Hospitals that they have appointed "faculty committees to review the curriculum and make recommendations for closer collaboration between instruction in the various fields of medicine."

Loan Funds and Scholarships.—A year ago Congress appropriated $5,000,000 to be loaned to medical students and other technical and professional students seeking training in their respective fields by studying in an institution having an accelerated program. Approximately $2,000,000 of this appropriation has not been loaned, but it is available only to students who have previously borrowed from this fund. The W. K. Kellogg Foundation made grants to 84 schools in the United States and Canada totaling $977,700 to be used for scholarships and loans as each institution chose.

NURSING EDUCATION

Federal Funds.—The Bolton Act (Public Law 74, 78th Congress) which was passed unanimously in June 1943 provides funds for basic programs of nursing schools, refresher courses, and for post-graduate programs. Congress appropriated $45,000,000 for a six-months period in July 1943 and made an additional appropriation of $7,500,000 in December. Approximately 1,000 schools of nursing were approved during 1943 for participation in the program which is administered by the Nurse Education Division of the United States Public Health Service. The Bolton Act created the Cadet Nurse Corps with the hope of enrolling 65,000 new student nurses in the Corps during the academic year 1943-44. If the goal is reached it will represent 16,000 more students than were attending nursing schools during the school year 1942-43.

The United States Public Health Service contracted with the National Nursing Council for War Service for recruiting services in connection with the Cadet Nurse Corps since the Council had worked out plans and administered them through its Recruitment Committee. The Bolton Act encouraged additional nursing schools to adopt accelerated programs. Some had previously accelerated their curricula with the help of outlines suggested by the National League of Nursing Education. In both cases the essential instruction and experience is now accomplished in periods varying from 24 to 30 months. The Bolton Act has also made possible the expansion of facilities for clinical experience in such areas as pediatrics and psychiatry and the development of special programs in certain Army and other Federal hospitals for providing training and experience for Senior Cadet Nurses. The period of time between the end of the accelerated basic nursing program and the date for the completion of the course as required by the state law or state board rules or the nursing school graduation requirements is the period during which the nurses are termed Senior Cadets.

National League of Nursing Education.—The Board of Directors of the N. L. N. E. has approved the accrediting of 100 schools of nursing. It also authorized the publication on Jan. 1, 1943 of a List of Schools Meeting Minimum Requirements Set By Law and Board Rules in the Various

States and Territories. This list included 1,297 schools of nursing.

The Committee on Measurement and Educational Guidance of the N. L. N. E. developed and administered tests for students desiring entrance to nursing schools and for students attending nursing schools to obtain information for professional and educational guidance purposes. The Committee also managed a State Board Test Pool, with State Boards of Nurse Examiners of 14 states participating, to facilitate the administration of state licensing examinations for graduate nurses and to provide a comparable system of measures for evaluating nursing ability for all members of the Pool.

The American Nurses' Association has created a Clearing Bureau on Problems of State Boards of Nurse Examiners. The Bureau has prepared a suggested minimum curriculum for the State Boards of Nurse Examiners to use in evaluating applications for registration by reciprocity. It is hoped that this will facilitate the registration of nurses moving across state lines. The Education Committee of the National Organization for Public Health Nursing, in cooperation with a special committee of the National League of Nursing Education and the Association of Collegiate Schools of Nursing, has undertaken a study of public health nursing education and its relationship to basic and advanced nursing education.

Nursing Students and Personnel.—The total enrollment in accredited schools of nursing was 98,166 in 1943 while the similar figure for 1942 was 93,977. During the past ten years or more the number of accredited schools has continued to decline while the number of students attending the remaining accredited schools has constantly increased. The number of schools approved by their respective state boards of nurse examiners was nine less than a year ago.

The number of graduate nurses employed on nursing service during 1943 was 120,114, the number of practical nurses 22,161, the number of attendants 94,133, and the number of orderlies 25,857. These figures, when compared with similar statistics for 1942, indicate an increase in graduate nurses employed at nursing of 7,272, an increase in practical nurses of 4,829, a decrease in attendants of 869, and an increase in the number of orderlies of 1,020.

EDUCATION FOR PUBLIC ADMINISTRATION

Social Science Research Council.—The Committee on Public Administration of the Council did not publish a new edition of "Educational Preparation for Public Administration" so the sixth edition which was for the academic year 1941-42 is the latest edition available. During that year 80 colleges and universities offered a major or a special program for those desiring training for public administration. Several Federal departments have become interested in sponsoring training programs for those employed by them. The Federal department which seems to have the most extensive program in public administration is Agriculture, and the courses are offered by the Graduate School of the United States Department of Agriculture.

Military Government.—The need for trained individuals to serve as officer-officials in the conquered countries under the program of military government led to the establishment in 1942 of a school for military government at the University of Virginia. During 1943 six more universities—Yale, Harvard, Michigan, Stanford, Chicago, and Pittsburgh—were selected to offer programs of this nature. The officers assigned to these schools study the languages, resources, laws, history, geography, culture, economics, and business organizations of a particular area. Somewhat similar training is being provided for enlisted men under the Army Specialized Training Program in its Division of Area and Language Study. The duties of these men and the ranks which they will hold at the completion of the program will apparently vary. It is thought that few of them will assist with the military government of occupied countries. Training in international administration is also being offered to selected persons as part of the educational program of the United States Navy.

National Institute of Public Affairs.—This Institute, which is located in Washington, D. C., continued to offer an internship program providing for a combination of study and "experience on the job." Students enroll in classes for study and discussion under the leadership of experienced teachers and work in one of the government departments or bureaus for the "internship" part of the program. The increased number of opportunities for employment in the government service aided in the continuance of this plan.

Washington Inter-American Training Center.—This center was established by Nelson A. Rockefeller, Co-ordinator of Inter-American Affairs and is administered by the American Council of Learned Societies. The director, Henry Grattan Doyle, reported in the April 3, 1943 issue of *School and Society:* "Registration in the center is open only to officers in the Army or Navy, or to civilian government personnel who are being sent to Latin America on official missions or are engaged in the administration of Latin American programs, plus a limited number of highly recommended members of their staffs." The Center has organized courses on an eight-week basis and has usually obtained rooms for classes in the building housing the government agency with which the particular group of students is connected. The curriculum has included languages, geography, economics, sociology, government, history, culture, and other aspects of certain regions and countries of Latin America. The practical instruction in languages has emphasized spoken language, and the language staff has included native speakers of Spanish and Portuguese. The Center began in June 1942, and the emphasis from the start has been on "area studies."

TEACHER EDUCATION

Enrollments.—The National Education Association estimated, in a bulletin published in December 1943, that the number of students attending teachers colleges in 1943 was 72,000 in comparison with 175,000 in 1940, or that a decrease of almost 60 per cent had occurred in three years. The departments and schools of education in colleges and universities report similar declines in enrollment in teacher training courses. The N. E. A. also estimates that 120,000 teachers have left teaching positions since the United States declared war for reasons directly related to the war. The scarcity of adequately prepared teachers is still further increased by the fact that many persons completing courses preparing them for teaching positions are encouraged to accept positions in industry or civil service because of higher salaries. More than 250,000 positions were paying less than $1,200 in the fall of 1943, and it appeared that more than 40,000 individuals serving as teachers would receive less than $600 for the school year 1943-44.

Certification of Teachers.—Many states have issued emergency licenses or certificates based on lower educational standards than the regular license or certificate in order to obtain teachers for vacancies. Some states have already employed hundreds of public school teachers having only emergency certificates. In the city schools shortages are especially frequent in mathematics, industrial arts, physical education, business education, chemistry and physics. Since salaries offered in many rural communities are low and living conditions and transportation facilities poor in comparison with larger centers of population it has been almost impossible to find teachers for some rural school positions, and the rate of turnover has been exceedingly high.

Higher salaries would help to increase the number of those preparing for teaching positions. They would also encourage some now qualified, but not teaching, to accept teaching positions. The 10 per cent increase in teachers' salaries which took place between the school year 1938-39 and the year 1942-43 enabled them to reach an average of $1,550 in 1942-43. However, the cost of living has increased more rapidly than salaries, so there has been a decline of 11 per cent in the purchasing power of the average salary.

The Council on Co-operation in Teacher Education.—This Council consists of the representatives of 15 professional organizations interested in the education of teachers, and it recommended, as a result of a four-day conference held in March 1943, that members of the organizations participating support Federal aid for public education, inform the lay public concerning shortage of competent teachers, increase public appreciation of good teaching, aid the trend toward more democratic school administration, promote in-service education for employed teachers, see that certificates granted emergency teachers are temporary, and emphasize the improvement of human relations in all situations.

The Council is sponsored by the American Council on Education, and it held a working conference of two-weeks duration in August 1943. The chief topics considered by the delegates were the developing of the teacher as a person as well as a professional worker.

The American Association of Teachers Colleges.—The Minimum Standards for Accrediting Teachers Colleges and Normal Schools were revised in February 1943, and new statements included under "Admission," "Standards for Graduation," and "Teaching Load of the Faculty." In each case the new statements were recommended by the committee on extension and correspondence work. Ten new institutions were added to the accredited list, and one institution was approved for graduate work, making a total of 183 schools on the membership list.

Committee reports were made by: the Committee on Cooperation in the Special Fields, Subcommittee on Teachers College Libraries, Subcommittee on Educational Objectives in Normal Schools and Teachers Colleges in the United States in 1942-1943, Committee on Extension and Correspondence Services, and Committee on Accrediting and Classification. The reports of these committees are published in the twenty-second yearbook of the Association.

One of the most interesting projects conducted during the year was the attempt to have each college consider appropriate measures to assist men from the military service to reenter civil life and inform the nearest regional office of the Veterans' Bureau concerning facilities and plans for rehabilitation as soon as the information could be prepared.

THEOLOGICAL EDUCATION

American Association of Theological Schools.—The national office is now located at 744 Jackson Place, N.W., Washington, D. C., and Henry P. VanDeusen of the Union Theological Seminary of New York is the current president. The biennial meeting of the Association is scheduled for 1944.

Enrollments and Recruiting.—Statistics are not available but it is estimated that there was a considerable decrease in the number of individuals attending theological seminaries during the academic year 1942-43. A committee interested in recruiting outstanding men for the Christian ministry has been working vigorously on the problem, which became of increased importance during 1943 as additional ministers volunteered for duty as chaplains in the armed forces. It is thought that from eight to ten per cent of all the ministers in the United States are needed as chaplains, in order that the ratio of one chaplain for every 1,200 men may be attained. This is the ratio suggested as desirable by the Federal Government. There was a shortage of ministers in several denominations in 1941, and one denomination now has approximately one-fifth of its active ministers serving as chaplains.

Students preparing for the ministry in theological or divinity schools are exempt from training and service in the military forces, but many of them have volunteered their services as Army or Navy chaplains upon the completion of their education. This fact has caused many of the schools to adopt an accelerated program whereby the former three-year course is taught in two calendar years. The intensive program is arranged by eliminating most vacation periods and crowding three terms or semesters into each calendar year.

Church Unification.—The possibility of reducing the number of different Protestant denominations in the United States is still discussed, and an illustration is the continued conferences between the Presbyterian and the Protestant Episcopal Churches. From the standpoint of education it is interesting to note the formation at the University of Chicago of one divinity faculty composed of staff members of the Chicago Divinity School (Baptist), the Chicago Theological School (Congregational), the Unitarian School of Theology, and the Divinity School of the Christian Church. The various schools maintain their separate existence in terms of endowment and facilities, but are cooperating in making possible certain course offerings and programs.

Refresher Courses.—Many denominations have offered through one or more theological schools or seminaries refresher courses varying in length from two to eight weeks. These courses have been given, usually in the summer, for men in the active ministry or for those who have been inactive for a time but who plan to return to active service owing to the present urgent need for ministers.

TRAINING FOR SOCIAL WORK

Schools of Social Work.—The American Association of Schools of Social Work moved its offices from Pittsburgh to Chicago and continued to be active in serving as a clearing center for ideas from the 42 member schools. While the standard professional education for social work is still considered to include a two-year program of courses, field work, and research leading to a Master's degree, the need for social workers has so far exceeded the supply that several institutions have organized courses on the undergraduate level and are offering a basic program for undergraduates. It is thought that this plan will serve to interest undergraduates in social work who might not otherwise become interested, and to provide limited training for certain positions in some public and private agencies.

Indiana University, which has a graduate Training Course for Social Work, was one of the first universities to organize undergraduate courses in this area. The courses are offered in the Department of Sociology and are also for those majoring in Economics, Psychology, Government, and Home Economics. While many positions are open only to those who complete training on the graduate level, students receiving the Bachelor's degree with emphasis on social work may qualify for jobs in State Departments of Public Welfare, the United States Employment Service, and certain other state, Federal, and private agencies. The undergraduate courses at Indiana University include, among others, Social Welfare Organization, Social Case Work, and Field Work. Helene Smith, director of Field Services, Indiana Department of Public Welfare, writing in the October 1943 issue of *Public Welfare,* makes the following statement: "While development of pre-professional training for social work, or recruitment training, or pre-service preparation, call it what you may, is not alone the answer, yet I do believe that a program encompassing coordinated planning between responsible undergraduate schools, merit systems, administrative agencies, and graduate schools should in time do much to raise the general level of competence in the field of social work. I should like to see us tackle the problem head-on by giving greater and more thoughtful attention to the possibility of considerably expanded undergraduate facilities."

Helen A. Brown of the Department

of Sociology, I. U., in an article in the January 1944 issue of *Public Welfare* appraising the undergraduate program established at Indiana University in January 1943 concludes: "Probably the greatest contribution that such a program can make and will make is the recruiting into social work of the more stable and better adjusted students in the undergraduate student body. With the tremendous manpower shortage, undoubtedly many of these students would have been drawn immediately into private industry or other professions if they had not had an opportunity to find out that they were really interested in social work as a profession and wanted to go into it at the present time, in spite of the more attractive salaries and working conditions that would have been available to them."

Trends.—The increased demand for social workers has resulted in the waiving of certain educational requirements by some states for those appointed on a temporary basis, the waiving of residence requirements by some states for those applying for positions, and the appointment of many individuals to positions in the field of social work who have had no training for the particular position. It was estimated in 1942 that each year 10,000 men and women are employed by social service agencies and institutions. The tendency during 1943 was further to increase the total number of social work positions, and this has resulted in still more opportunities for employment.

ADULT EDUCATION

By J. O. Keller and H. G. Pyle
The Pennsylvania State College

GENERAL

The tenor of developments in adult education during 1943 was set by wartime needs, and probable conditions and developments in post-war years. The war has witnessed America's Army and Navy conducting the largest adult school in the world. Such a school had to be created because in this war the only place for an untrained man is home. Consequently, adult training has received Federal subsidization equivalent to other major phases of the war effort. The industrial production effort has demanded similar training which has been accomplished by Federal and company-financed programs. The vocational schools, colleges and universities, and plant training programs have made major contributions. These adult training programs have gone on despite travel difficulties, conflicting programs, shortages of one kind or another, and the general preoccupation of everyone with the war effort.

The Second World War is a people's war in respect to universal service and sacrifice. The question arises in the minds of many whether the peace to be signed will provide for a people's future. This idea has appealed to the imagination of adult educators and, as a consequence, many projects were designed during the year for the purpose of providing discussion of post-war conditions. Wartime adult education programs have emphasized technology. Will peacetime programs be designed on an equivalent scale to emphasize, in addition to technology, the consideration of new political and economic structures, new international arrangements, and new advances in the arts and sciences? The chances are we shall progress in the social sciences and that adult education may play a large part. The conditions under which this war is being fought bid fair to stimulate this development. The war goes on on a world-wide basis. Travel to strange lands and the intermingling of peoples begets sympathy and understanding for foreign life and customs; tasks undertaken in connection with the conflict, develops ability to assume large responsibilities; and, not to say the least, there is afforded an opportunity for distant reflection on the American scene.

The President has said that we at home have a special and continuing obligation to the men and women of the armed forces. They must be demobilized into an economy which is sound and prosperous. We have taught our youth how to wage war. We must teach them on an expanded scale how to live useful and happy lives. The schooling and training of youth has been interrupted by the war, and the Government at the close of the year was taking legislative steps to make provision for the education of service men at government expense.

IN THE ARMED FORCES

Eleven out of every 14 able-bodied men between 18 and 38, it was estimated, were registered for training programs of one kind or another in the armed services at the end of 1943. Four kinds of training go into the building of a combat force: basic, technical, tactical, and logistic. Basic training makes a soldier out of a civilian. Technical training teaches him his specialty in specialized warfare. Tactical training teaches a soldier how to act in a combat team so as to strike as an effective unit. Logistic training teaches the science of housing, moving, and supplying troops. Training patterns are tailored to fit the job and if possible, the man.

An inductee assigned to the Army moves successively from his induction center to a reception center where he is given classification tests and then sent to a replacement training center. Here he receives 13 weeks of basic training unless he has been detailed to go to a technical school. Following this period, he is assigned to a combat unit or a technical school or a specialized training unit or an officer candidate school. Should the inductee be assigned to the Navy, he probably goes to a naval training station. At the end of eight weeks he is recommended for midshipman reserve school, or he is recommended for a rating as a petty officer and assigned to duty, to sea service, or to a Navy service school. Should his qualifications be outstanding, he may have been assigned to a naval college unit. Should he be assigned to naval air service, his first training will be given at a flight preparatory school with 12 weeks of instruction on a college campus. Thence he goes to a preliminary flight school and possibly a pre-flight school. Then he is assigned to a primary flight school and later to an intermediate flight school. Following this schooling, he is assigned to operational training. Only then, after 70 weeks, 1,400 periods of ground school, more than 300 hours of flight training, and after watching 35 per cent of his fellow cadets "wash out," is he assigned to active duty in a Navy plane. Army pilot training follows roughly a similar pattern.

There are various other interesting characteristics of this vast adult training program. If possible, the armed services hope to have inductees who have had certain specified pre-induction training. To fight in this war, the service man must be able to do easy reading of messages and at least simple arithmetic. Unfortunately, many able-bodied, intelligent men can not meet these elementary qualifications. Four states have 36 per cent or more adult illiteracy. The Army estimates that at least 750,000 American men would make fine soldiers could they read, write, and figure at a level equal to that of a fourth grader. Fortunately, steps are being taken to reclaim these men for service. Characteristic of the service training programs is their directness. A wealth of audio-visual training aids is used. The trainee learns by doing and observing rather than by being told. There is no more theory taught than is absolutely necessary. All training is made as realistic as possible. Generous use is made of models, charts, slide films, and film strips. A spectacular example of the use of visual aids is found in teaching swift recognition of aircraft and warships.

Proper classification procedure is of the utmost importance not only in placing the inductee, but prior to that, in training and developing his special skills and talents. Much of the vocational training given in the Armed Services will be of great value to the inductee in civilian life. Nine out of ten specialized jobs in the armed forces develop skills needed for civilian jobs. The Navy maintains 558 technical schools and the Army this year sent 1,500,000 men through its vocational schools. The Army Specialized Training program and the Navy college programs are intended chiefly as training for potential officers. It is estimated that 100,000 uniformed students were on American college campuses at the end of 1943. The best of the military training programs in college are probably the Army School of Military Government at the University of Virginia and the corresponding Navy School at Columbia University. Students in these schools are handpicked individuals. They study problems involving the setting up of military government in occupied countries.

Another interesting characteristic of our service group is that it has had considerably more civilian education than was the case in the last war. Fourteen per cent of the armed forces in this war are college men; four out of ten have graduated from high school; two out of three have been to high school. Off-duty educational opportunities are provided by the Army Special Services Division and the Navy Educational Services Section. Features of this off-duty educational opportunity include correspondence courses, voluntary afterhours' classes in bases throughout the world, books, magazines, lectures, movies, news maps, pocket guides, and special facilities for language study. Dozens of off-duty classes are held in a variety of subjects, officers and enlisted men receiving no pay for teaching being the teachers. In the Navy these classes meet in an educational service center, each center having an educational officer who attends to organization details. In so far as reading material is concerned, the Army and Navy have built up a vast library system. The services have already purchased more than 10,000,000 books, with plans being made to purchase many million more. Each post, naval station, and battleship has a fairly well-stocked library, there being 1,500 to 2,000 permanent Army and Navy libraries in this country. Traveling libraries are used and the experience of the Army and Navy in this and other respects may lead to revolutionary practices in size, binding, and, best of all, cost of books for the people in the postwar period.

The Armed Services have been using a great number of experts in foreign language in their training programs. Great achievements have been made in language teaching even in many little-known tongues. Special pocket guides have been prepared to aid the service man when he embarks on a transport or leaves a ship in a foreign port. Much entertainment is available to service men with facilities offered including some of the best in radio, stage, and screen. Special radio programs are beamed to our armed forces in all parts of the world. With the cooperation of the theatrical profession and the Army and Navy, U. S. O. camp shows have organized the largest theatrical enterprise in history. The Army and Navy have spent approximately $200,000,000 for recreational facilities.

The Armed Forces Institute is the most ambitious university-by-mail in history. It offers high school, college courses, and a great many trade and vocational courses by correspondence. Headquarters of the Institute is located at Madison, Wis. The cooperation of 81 colleges and universities was enlisted in giving more than 700 approved high school and college courses. The Institute has supplemented these courses with 64 correspondence courses of its own making. Courses are available at bargain prices. If the service man is located where correspondence is difficult, he may enroll for self-teaching courses which have been prepared. Sixty per cent of the enrollment of the Institute is overseas. An excellent and more complete statement on adult education in the armed services appears in the *Adult Education Bulletin* (Vol. 7, No. 6, August 1943).

U. S. OFFICE OF EDUCATION

The United States Office of Education is the Federal Agency administratively responsible for many important civilian training programs. There has been a tremendous increase in the number and variety of vocational courses for the training of war workers. Under the program of vocational training for war production workers, a total of 1,176,642 persons received training in pre-employment courses and 1,472,705 in supplementary courses offered this year by the public vocational schools. Approximately 40 per cent of the former and 20 per cent of the latter were women. Congress appropriated $114,000,000 for this work. The courses emphasized the skills needed in the several hundred essential occupations for which training had been authorized by the War Manpower Commission.

To meet the shortage of engineers, chemists, physicists, and production supervisors in fields essential to national defense, the Engineering, Science, and Management War Training program has been carried on under a Congressional appropriation of $30,000,000 for the fiscal year. This program, referred to more fully under University Extension, was carried on with the cooperation of the colleges and universities. In cooperation with the U. S. Employment Service and the Bureau of Prisons, the Office assisted Federal prison authorities in reorganizing 15 institutional training programs to prepare prisoners prior to release for employment in war industries. A series of teacher training conferences was held for the Federal Housing officials to enable their personnel to cope more effectively with the training needs of that agency.

A Congressional appropriation of $1,000,000 was made for the production of 150 visual aid units. Each unit consists of a sound motion picture, 10-17 minutes in length, a silent film strip and an accompanying manual. The units cover subjects essential in the war training programs. The Rural War Production training program was carried on under an appropriation of $15,000,000, with an enrollment of 759,983 persons. Its purpose was to train out-of-school persons who had not reached 17 years of age and was designed essentially to train farm workers in repair, operation and construction of farm machinery and equipment, and in the production, conservation, and processing of food for farm families.

The Office of Education was also concerned with other programs. Staff specialists in business education assisted states in organizing pre-employment replacement training programs which would care for training needs of stores and store workers. During the year these programs served over 235,000 persons. To aid in preparing physically handicapped persons for work, the Office cooperated in two courses for the training of state rehabilitation personnel: a two weeks' conference at Memphis, Tenn. in which 37 new case workers from 12 southern states were trained, and another six weeks training course at Columbia University with an enrollment principally of state rehabilitation workers. In a program of training for school bus drivers, the Office cooperated with the Office of Defense Transportation, state departments of education, and other agencies concerned with the conservation of transportation facilities. Exhibits of arts and crafts of the other American republics were prepared and circulated for inter-American programs. Loan packets were prepared and circulated by the Information Exchange of the Office.

OFFICE OF CIVILIAN DEFENSE

Because of its widespread contacts

with voluntary civilian groups, OCD seemed to be the proper Federal Agency for servicing face-to-face war information programs throughout the nation. Accordingly, by administrative order, there was established on Jan. 4, 1943 in OCD the Organizations Service Division. The establishment of this agency might have represented an organized effort on the part of the National Government to insure civilian understanding of war aims through the medium of discussion groups, town meetings, forums, lectures, and the like. In providing this service, OCD had no news or information-production function. It was to serve by giving direct information about the war through speakers, pamphlets, leaflets, motion pictures, and posters, provided by the various other agencies of the Federal Government.

The organization was abolished as of July 15, 1943. The reason for the discontinuance of this war information agency seemingly developed from political opposition to having the Federal Government participate by direct means or otherwise in the operation of forum or discussion groups. The abolition of the forum services of the Office of Education would seem to substantiate this conclusion.

The Protection Branch of this Office designed to mobilize, organize, and train a force to help every community limit the effects of the enemy action, particularly in air raids, was estimated to have more than 5,000,000 trained volunteers functioning through the 10,000 local defense councils in the country.

UNIVERSITY EXTENSION

There were no wide changes in extension activities of colleges and universities during the year. Several institutions report increased demand for correspondence instruction, among them being the University of South Carolina, Oregon State System of Higher Education, Texas Technological College, University of Missouri, North Dakota Agriculture College, and University Extension in Massachusetts. Increased enrollments through the Armed Forces Institute have been received by a number of institutions and it is likely that interest in correspondence instruction will have received a stimulation from the work of the Institute, effects of which will be felt for some years.

To cope with travel difficulties, the University of Iowa initiated special broadcasts over its University Station WSUI to community study groups, on war and post-war problems. Special study materials supplemented the broadcasts. The University of Syracuse is building a new arts and crafts workshop for adult instruction. The University of Michigan, in order to meet travel difficulties, took its annual institute on parent education to various regions of the state rather than hold a state-wide institute on the campus. The Universities of Missouri, Omaha, New Mexico, and others are making special plans to meet post-war conditions. The activities of the Social Science Foundation of the University of Denver include plans for a lecture series in Denver and vicinity on workers' education for working men and women in plants. At the University of Wisconsin industrial extension programs have been expanded, and there is evidence of plans for greater use of radio and visual aids in serving the people of the state.

The University of Virginia continues its studies of community problems and their practical solution. The College of William and Mary gave attention to the preparation of materials for educational study groups on commercial fisheries in Virginia. The University of New Hampshire has organized its news services, alumni relations, publications, radio, and all extension programs, including agriculture, under one head. Rhode Island State finds considerable interest in the Engineering, Science, and Management War Training (ESMWT) program and in special institutes on taxes and insurance.

At the University of Texas, a three-county field school is in operation in which economic, social, and moral problems are being studied. The institution is also conducting school surveys and studies of other community problems. The University of West Virginia mentions an expansion of industrial training by extension, while the University of Florida sees a trend toward the training of certain county and municipal employees by state institutions. At the University of Minnesota, the Center for Continuation Study has been made a part of the university extension service. The University of Chicago sees war demands for adult courses of a practical nature. As the year closed there appeared *University Extension in Adult Education* by Dr. Clem O. Thompson of the University of Chicago, setting forth conclusions of a five-year study sponsored by the National University Extension Association and the American Association for Adult Education.

The University of Tennessee has emphasized its offerings of instruction by radio and visual aids. The Oregon State System for Higher Education is planning special round tables and institutes for elementary and high school teachers under the guidance of leaders in special fields. A "School of the Air" for Oregon schools has been developed also. At the Pennsylvania State College there has been a decrease in registration for ESMWT courses from heights reached earlier.

During the fiscal year 1942-43, the Engineering, Science, and Management War Training program trained nearly 600,000 men and women in courses conducted by 216 colleges in more than 1,000 towns and cities. The largest enrollments were in engineering courses (75 per cent); production supervision courses have enrolled 20 per cent of the trainees; and chemistry and physics the remaining 5 per cent. To conduct these courses 37,000 instructors were employed.

For two and a half years colleges participating in ESMWT have given training to nearly 1,250,000 men and women. The program has not been intended to give specific training to meet the needs of war industries and government agencies. It can be said at this time that the colleges have done a splendid job of developing new courses to meet industrial needs. Women constituted only 1 per cent of the trainees under the Engineering Defense Training program of 1940-41; 9 per cent under the Engineering, Science, and Management Defense Training program of 1941-42; 25 per cent under the ESMWT program of 1942-43. The 78th Congress approved an appropriation of $25,000,000 under Public Law 135 for ESMWT in 1943-44. At the end of the year, it was difficult to predict future need for this program. Apparently, however, so long as it is necessary for the nation to put forth its maximum effort, further training in college-grade short courses will be needed in large volume.

LIBRARY SERVICE

Results of the work which other adult education agencies achieve are revealed somewhat by library usage figures. Libraries are an important agency in adult education and can greatly assist in projects of many types. They have been termed "peoples' universities." (See "Libraries," p. 994).

PUBLIC HEALTH

The wartime adult education program in the fields of public health, welfare, recreation, and child care have been characterized by numerous developments. A national nutrition program has had the participation of many government offices, state and local officials and numerous official agencies, and commercial organizations. This program has set an interesting pattern for the utilization of the resources of business for health education under government direction. The Federal Public Housing Authority has appointed a director of health education and on all of its housing projects is urging its project services advisors to assist in the development of health education programs. The National Safety Council and its affiliates have developed programs on safety education in cooperation with industry, the War Production Board, and other government agencies. The American Public Health Association is planning to extend safety programs through health departments.

The U. S. Public Health Service has directed demonstrations in 90 southern areas on the use of teachers during the summer months for community education for malarial control. The Service has also developed an experimental in-service program conducted for its own employees in health education. An extensive adult education program through the Office of the Coordinator of Inter-American Affairs has been continued. Illinois, Nebraska, and California have created statewide public health committees. By means of local health institutes it is hoped to promote a better understanding of public health. Local health education programs have been under way in Boston, New York, Hartford, Bridgeport, Detroit and in local areas in North and South Carolina and Oklahoma. The Cleveland Health Museum has developed numerous health exhibits for adults. The American Film Center in New York has a new and excellent annotated list of health films for lay audiences. The University of California School of Public Health is offering special courses in health education to meet the needs of Latin Americans. The Planned Parenthood Federation of America has developed materials on family planning in relation to public health.

With the country facing urgent needs for hospital and nursing care, the Congress enacted the Bolton Act in 1943 which was aimed to enroll 65,000 new student nurses in the U. S. Cadet Nurse Corps before June 1, 1944. To meet this acute shortage and provide a training program, Congress appropriated $45,000,000. (See "Nursing Education," p. 974).

CHILD CARE

The Children's Bureau of the U. S. Department of Labor increased its activities during the year in the field of training volunteers in child care. It was especially concerned in the protection of children and youth in wartime, and its publications were widely distributed through national organizations, church groups, state and local defense council committees on children in wartime, and through other agencies dealing with child welfare. Its most popular bulletin "Infant Care" was distributed to more than 1,000,000 people. Special wartime conditions led to concern on the part of a great many agencies with respect to child care and particularly youth delinquency.

RECREATION

With the prolongation of the war, emphasis on the public recreation movement was of necessity directed to the giving of service in war-affected areas. Many communities designed their recreation services to meet the special needs of industrial workers and their families, many of whom are housed in public housing projects or in trailer camps. To cope with the youth delinquent problem, attention was given to leisure time of teen-age youth. Special teen-age centers and canteens were established. With restrictions on transportation, emphasis was also given to the development of home, family, and neighborhood facilities. The National Recreation Association helped localities through the assignment of field workers to nearly 400 cities in 1943. Through institutes the Association trained approximately 7,000 local recreation leaders in 1943 and assisted approximately 130 war plants in recreation projects for their workers. A special manual on the subject was also issued. *The Recreation Year Book,* published by the Association, attempted to give fairly complete information and statistics on organized local government recreation in the country.

WORKERS' EDUCATION

There continue to be indications of the formulation of a workers' education program on a national basis. Several colleges and universities through their extension organizations worked during the year in cooperation with labor unions on various projects. At a mid-west workers' education conference, held under the auspices of the American Labor Education Service, a special session on cooperation between labor and university groups brought out the following points: education for workers should be closely aligned to their needs and interests; workers need to think about community problems and community welfare instead of devoting their attention to matters of union organization and increased wages; are universities sympathetic toward this type of education?—they have helped other groups such as farmers and business; the Continuation Center of the University of Minnesota was cited as an instrument of adult education open to all groups of citizens and used in 1942 for the first time by labor; workers' education in Wisconsin has always been financed through allotment by the university of general funds for this work.

In Pennsylvania a bill was introduced during the year calling for an appropriation to The Pennsylvania State College extension services for the purpose of organizing a program of education for labor. When President Ruthven of the University of Michigan returned from a study in England of plans for post-war education, he declared that the extension services of our colleges and universities should be very broadly developed for the purpose of serving labor and returning service men. The extension division of the University of Alabama initiated plans for making facilities of that institution available for leadership training for labor.

The Workers' Education Bureau of America was instrumental during the year in organizing a number of conferences and institutes in Minnesota, Iowa, New Jersey, Kansas, Nebraska, Massachusetts, Colorado, and elsewhere. These institutes were organized in cooperation with labor and universities or local educational institutions. The Bureau was also active in issuing various publications and arranging for exchange lecturers with the Workers' Education Association of Great Britain. Under this arrangement four lecturers from the British organization spent a considerable amount of time in this country. The American Labor Education Service conducted a number of training institutes and worked with other organizations in the interest of labor education service. It continues to conduct a summer school for office workers.

AMERICAN RED CROSS

The most significant development of the Red Cross program of adult education was the taking over of a wing of the American University in Washington, D. C. for the training of its field personnel at home and overseas. More than 10,000 men and women took the specialized two-week training course and now are on duty as field directors or assistants, club directors, hospital or social workers, and secretaries in camps and naval stations at home and with the United States troops all over the world. The trainees are a representative body of Americans—successful business men and women whose sons are in the Armed Services, wives whose husbands have gone to war, college professors, high school teachers, ministers, rabbis, social workers, newspaper men, musicians, actors, and other professional people from every state and territory.

During 1943 many millions of Americans performed patriotic services in and through the American Red Cross. There were 4,000,000 workers in the Volunteer Special Services alone, these volunteers having been given a course of training by Red Cross instructors before assignment. The Red Cross trained 65,000 girls and women as nurse's aides and more than 400,000 women and some men received certificates qualifying them to give simple bedside care to the sick. As of the year ended June 30, 1943, 221,959 certificates in the standard nutrition course had been issued. Over 1,500,000 Americans completed Red Cross first-aid courses and received certificates so that now one out of every three American homes should have first aid protection.

There were 300,000 certificates awarded to those completing the water safety course. At the request of the Army and Navy, Red Cross instructors are teaching swimming at military and naval stations, not only in the United States but in some places overseas.

AGRICULTURAL AND HOME ECONOMICS EXTENSION

To this adult education program can be credited great changes in the attitude and interest of farmers in their willingness to apply improved practices, so that, fortunately, scientific developments in agriculture have been brought to the farmer on a par with the rate at which industry has become aware of scientific developments. Early in 1943, by order of the President, the extension service was made a part of the agency later known as the War Food Administration, and the extension service was given the leading responsibility for agricultural programs dealing with war food production and conservation. One of the great problems which agriculture had to face was that of obtaining labor for harvesting crops. Extension service took the leadership in emergency farm labor mobilization, giving inexperienced labor in some nstances brief training to enable it to work effectively. The Emergency Farm Labor Act, passed April 29, 1943, made the extension service the responsible agency for the work of farm labor mobilization. It is of inerest to note that more than 12 per cent of the trained personnel of the staff have entered combat service since Pearl Harbor. Travel difficulties were a great hindrance in attempting to carry on the regular program. Considerable attention was given to nurition and health problems in rural areas and to helping farmers in making out income tax returns, based on adequate farm records.

ADULT EDUCATION ORGANIZATIONS

Agencies of professional workers in adult education may be found on national, state, and local levels. The Department of Adult Education (NEA) cooperated with other agencies in sponsoring regional conferences. During the year ten state or regional associations affiliated with the Department, and negotiations were carried on with the American Association for Adult Education with a view to discovering a basis for closer cooperation, but so far these have been inconclusive. Six issues of its *Adult Education Bulletin* were published during the year; also a special bulletin, *Adult Education Programs of the Federal War Agencies.* The American Association for Adult Education recently embarked on a campaign to stimulate the organization of adult education by community, state, and region in the United States. Issues of its *Adult Education Journal* carry cross-sectional reports on the impact of the war on adult education agencies.

The AAAE also cooperated in sponsoring and organizing regional institutes. The New York Adult Education Council published a bulletin "The People are Ready to Discuss the Postwar World." The Springfield Council plans a series of meetings for community leaders on post-war plans. The Michigan and Colorado Councils have fostered a series of state-wide discussion groups. The Ohio State Association worked to have its defense councils carry on a program of discussion groups. The Saint Louis Council continued its directory of adult education opportunities. The annual report of the director of adult education, Des Moines public schools, for 1942-43 pictures a good all-round program. These activities are typical of those of local or state councils. The Institute of Adult Education at Columbia University is engaged in a project designed to adapt certain documentary films for use with adult groups. The Institute's earlier publication, "Report of the Commission on Postwar Training and Adjustment," is still in much demand.

LITERACY AND CITIZENSHIP

War conditions have again turned

our attention to the literacy problem when the Army considered it possible to reclaim 750,000 men from the draft age, who are physically fit but educationally deficient. Approximately 14 per cent of all adult citizens in the United States have had only four years of schooling or less, while 60 per cent have had less than four years of high school training. There are also approximately 700,000 totally illiterate aliens in this country. This situation indicates a need for a soundly conceived literacy program. Our national educational program should thus stress other phases as well as the vocational. As has been said, the Army has instituted programs to combat illiteracy, and the Immigration and Naturalization Service is also working on this problem in so far as aliens are concerned. The Service works through the schools and community groups serving as a referral agency and assisting in other ways. It recently added educational officers to its staff whose duties are to cooperate with the schools, social service and other agencies; to stimulate production of educational materials; to coordinate the educational program with naturalization examinations; and to assist with ceremonies in celebration of "I Am an American Day." Somehow the more general mass assimilation and application of expert knowledge turned out by physical and social scientists must be put before the whole people.

WOMEN'S COMMUNITY GROUPS

The activities of the local units of the several national women's organizations represent the operations of community groups to keep themselves informed in various fields of interest. The National League of Women Voters, with its 34 state leagues and 571 local leagues, tried in 1943 to prepare people to adopt and support a positive program of international collaboration. Through squads organized in many neighborhoods they worked to have people think and choose as wisely as possible in supporting post-war foreign policies. Recruits talked with their neighbors, grocers, friends, fellow Victory gardeners, and whoever would listen. The American Association of University Women worked to contribute to the effectiveness of education, to protect children, to build better international relationships, and to promote full use of women's abilities. The General Federation of Women's Clubs urged forums for every populated community and the support of public community libraries and claimed itself to be the largest adult education organization in the world. The National Federation of Business and Professional Women's Clubs, in its adult education program for the year, chose by vote of its membership to work toward gearing women to war and living on the home front and also considered events shaping the peace.

Adult education forms a prominent part of the work of the National Congress of Parents and Teachers. Local units constitute representative cross sectional groups in a community. Study courses presented by the Congress for the year included "Basic Training for the Toddler" and "The Family's Stake in Freedom," together with many books and pamphlet publications.

INDUSTRIAL PLANT TRAINING

It is impossible to give an estimate of the extent of industrial plant training being carried on. Large numbers of companies have their training directors under whom programs are planned internally or arranged for with outside agencies. Large companies have very extensive training facilities, as for example, General Motors Institute, with its cooperative program in which there are alternating periods of study and practical work. In March 1942 the Institute inaugurated its War Products Training Program, and 11,000 men were graduated in 1942; in 1943 this Program was equipped to train 40,000 men in cooperation with the Army and Navy.

ACTIVITIES OF RELIGIOUS AGENCIES

The National Council of Catholic Women sees an increase in public forums on the community level. Thirty-six pamphlets were published during the year for its adult education program dealing with peace principles, education, and family life. The Council has sponsored seminars and institutes such as industrial conferences and labor schools. The International Council of Religious Education carries on its adult education work through the United Christian Adult movement, with many denominational boards of religious education. This year a general planning conference was held at Lake Geneva in July. The Federal Council of Churches of Christ in America lists as its most extensive single adult education project, the work of the Commission on a Just and Durable Peace, with John Foster Dulles as chairman. Jewish centers throughout the United States have been adjusted to war demands and have carried on classes in subjects related to the wartime effort. Forums, institutes, and adult classes have stressed post-war planning and it is expected that these centers will perform guidance, rehabilitation, and readjustment functions in the post-war period. National leadership in the work of these centers is largely through the National Jewish Welfare Board. Hillel Foundation units on American campuses increased in number from 76 to 134 during the year to serve Jewish trainees stationed there by the Army and Navy.

EDUCATION IN PRISONS

Educational activities continued to go on in prisons. The increased industrial production of war goods within these institutions and the great demand for industrial skills of all kinds in outside industry presented an opportunity to demonstrate the contribution that education in penal and correctional institutions can make to the war effort. In the Federal prisons, the average percentage of persons enrolled in some form of organized educational work increased from 38 per cent at the beginning of the year to 48 per cent at the close. Largely as a result of this training, 972 inmates were placed directly. The report of the Bureau of Prisons points out that personnel officers of many private industries are more and more interested in the placement of such released prisoners.

AIDS FOR ADULT TEACHING

Reference has already been made to the extensive use of visual aids made by the armed services in their training programs. Industry has used film on a large scale in specific job training and for such purposes as demonstrating assembly and fabrication of equipment overseas. In the Federally-sponsored vocational training programs, funds were appropriated each year for the production of training films. There is every indication that film and other visual aids will have a greatly expanded use in adult education in post-war years.

During the year the Educational Film Library Association was formed. It includes representation from colleges and universities, state, county and city school systems, and public libraries and museums. The organization at its founding contained representatives of 84 educational film libraries. An agreement was concluded whereby the American Film Center would serve as the administrative office of the Association. The purpose of the organization was to give wide distribution to certain government films, provide an exchange or clearing house function for educational films, promote the production and distribution of film, and to develop public interest in audio-visual education.

Late in the year announcement was made that the University of Chicago had entered the educational film field through the purchase of Erpi Classroom Films, Inc., largest producers of educational motion pictures. Film production units of the Universities of Minnesota, Iowa, Indiana, The Pennsylvania State College, and other educational institutions turned out productions relating to the war effort, while the film libraries of many university extension divisions saw increased demand for film rentals, particularly in technical fields.

Advancement was made elsewhere in developing aids for adult teaching. Four well-known educational organizations joined to create one new agency, New Tools for Learning: the New York University Film Library, Public Affairs Committee, the University of Chicago Round Table, and New York University Institute on Post-war Reconstruction. The organization promotes the wider use of pamphlets, films, recordings, and radio in civic and economic education. This is only one example of much excellent pamphlet material, available on a variety of subjects. The influence of the press, including the pictorial magazines, is far and away greater than mere mention here would imply.

EDUCATIONAL BROADCASTING

The radio broadcasting chains also attempted to further develop their educational broadcasting. Columbia continued its "Invitation to Learning" and the "People's Platform," as well as its "School of the Air." NBC further developed its "Inter-American University of the Air," started in July, 1942. Principal interest of this feature was in the history and music of the Americas. The broadcasts were primarily for adult education in the home and were designed to be entertaining as well as educational. "Lands of the Free" (history) is broadcast short wave to Latin America and "Music of the New World" to Europe.

Educational institutions with stations devoted their efforts to improving the quality of programs, adjusting to wartime demands, holding of radio workshops, and the organizing of radio councils, conferences, and institutes. Six educational stations now use Frequency Modulation and three operate licensed experimental television stations. Undoubtedly startling discoveries and improvements in the field have been made during the war, and post-war years should see vast developments.

The National Association of Educational Broadcasters held its annual meeting in Columbus, Ohio in May; and the Association for Education by Radio published monthly its *Journal.* The Federal Radio Education Committee issues its *Service Bulletin;* carries on a script exchange; and promotes cooperation between educators and commercial broadcasters. The Federal Communications Commission has set aside five educational channels the country over, exclusively for use of non-commercial educational institutions, affording room for hundreds of FM stations. They are among the best channels in the spectrum, so that they will be audible not merely on special school receivers, but on most FM home receivers as well. The use that will be made in adult education of these valuable channels is now the concern of the educational institutions themselves.

POST-WAR PLANNING

Several events occurring in the closing months of the year may serve to shape the pattern of future growth for adult education. A section of a National Resources Planning Board Report on Postwar Plans for Education, prepared by a committee headed by Floyd W. Reeves, called for the spending of $300,000,000 annually for adult education, of a proposed total for all educational purposes of $3,000,000,000. In addition to recommending educational programs for men and women demobilized from the armed forces and war industries, it calls for adequate education for health and safety, the vocations, leisure, home and family living, national security, citizenship, and the adequate use of community resources in social and economic education.

The Congress passed a law (P. L. 16, 78th Congress) providing for the free education and training of handicapped veterans, together with subsistence allowances ranging from $80 per month for a single man to $90 if married, plus five dollars for every dependent. It is to be administered by the Veterans' Administration. Training may extend no longer than four years. Facilities of colleges, universities and other institutions would be utilized, with provision being made for training-on-the-job. Since disabled veterans are already being discharged, provisions of this legislation are already being taken advantage of by service men.

Late in the year, following a report by the Armed Forces Committee on Post-war Educational Opportunities for Service Personnel, other legislation was introduced, providing for educational opportunities for all discharged service personnel. Opportunity would be given under the bill for a war veteran to receive a year's free education, with allowance for subsistence, and with those showing special aptitude being permitted to continue on this basis for three additional years.

It seemed likely that the post-war period would also see the development of large numbers (some estimated 200) of two-year institutes or technical junior colleges. Michigan was laying plans for the establishment of 30 "area schools" or institutes to serve returning war veterans, as well as other adults of the community. The Board of Regents of New York State was recommending the establishment of new two-year colleges, called institutes, within a 50-mile radius of every boy and girl in the state and with each institute specifically planned also to be an adult education center.

Two thousand American Veterans Association members, meeting in Chicago, looked forward to the challenge presented by the re-training needs of demobilized service men and war workers, and pointed with pride to the fact that their program had trained 9,000,000 men and women for war jobs since July 1, 1940. There was indication, too, that some agency or agencies would be charged with the responsibility of providing a guidance or counseling service for returning veterans. What group or institution should provide this service did not at the moment seem clear. Business institutions through local Committees on Economic Development worked to make their leaders aware of post-war opportunities and their accompanying responsibilities for preventing a large wave of unemployment. The Office of the Coordinator of Inter-American Affairs prepared teaching materials for adults which would promote inter-American understanding. The University of California Extension Division noted particularly a large increase of interest in language study, pointing out that with the prospective development of international air commerce this would be expected. New York University, for the second year, continued its Institute on Post-war Reconstruction.

LIBRARIES

By Mildred Othmer Peterson
American Library Association

WAR ACTIVITIES

The major activities of American and Canadian librarians and libraries during 1943 have been closely related to the war effort and to planning for the post-war period. Many normal activities have continued, often under difficulties, but they have been re-examined and modified in the light of major war tasks. Policies for library war service have been outlined by the American Library Association (see "Libraries," The American Year Book, 1942, and all 1943 issues of the *A.L.A. Bulletin, College and Research Libraries, Library Journal,* and *Wilson Library Bulletin* for library war activities.)

During the year a second Victory Book Campaign was conducted by the A.L.A., American Red Cross, and United Service Organizations. Some 17,000,000 books have been collected over the past two years. About 10,000,000 of these have been distributed to the Army, Navy, and Merchant Marine, War Prisoner's Aid, War Relocation Centers, and selected industrial areas.

The British War Relief Society of the U.S.A. also conducted a campaign for the collection of 500,000 books for the fighting forces in North Africa, the Near and Middle East, and for the British naval and merchant ships.

Some government funds for services rendered to men in training have been received by libraries in colleges and universities which are used as service training centers.

During the war the Army and Navy have built up a library system which is now the largest in the world. More than 10,000,000 books, exclusive of training manuals and donations from the Victory Book Campaign, have already been purchased, and some 35,000,000 more in special editions are being purchased through the Council on Books in Wartime. There are between 1,500 and 2,000 permanent service libraries in the United States, and book collections are established wherever U.S. service men and women are located.

POST-WAR LIBRARY PLANNING

Considerable thought is being given by libraries and the A.L.A. to post-war plans for public, school, college and university libraries. *Post-War Standards for Public Libraries* was published during the year through the cooperation of the American Library Association's Postwar Planning Committee and the National Resources Planning Board. Recommended standards are: (1) Complete public library coverage, (2) Library service of adequate quantity and dynamic quality, and (3) Large units and cooperation in library service. Further recommendations call for post-war expenditure of $200,000,000 a year for the maintenance of public libraries and $400,000,000 for capital outlays. In 1940 public libraries spent $50,000,000 for maintenance and $3,000,000 for capital outlays. New minimum per capita library standards are $1.00 for limited or minimum service, $1.50 for reasonably good service, and $2.00 for superior service.

Other studies in preparation on post-war planning include a report on what libraries can do to assist in the demobilization and rehabilitation of men and women from the armed forces and war industry; a report summarizing the planning activities of various library groups and presenting suggestions concerning areas in which planning is needed, and problems for which solutions should be sought; and a report on the readjustment of librarians to the conditions which will prevail after the war.

RELATIONS WITH FEDERAL AGENCIES

Libraries maintain close cooperation with the various government offices through the American Library Association. Beginning in October 1943, the O.W.I. issued a monthly news-sheet, *Library War Guide,* after consultation with the A.L.A. A special study resulting in a report, "Government Publishing in Wartime" (see *College and Research Libraries* IV: 100-106, 119, Mar. 1943) was made and submitted to O.W.I. The A.L.A. Federal Relations Committee, in cooperation with the Library Service Division of the Office of Education, has given considerable attention to priority, manpower, and related problems. Several congressmen, impressed by the unfortunate closing down of rural library activities operated by W.P.A., have expressed interest in some program of Federal aid to libraries.

INTERNATIONAL ACTIVITIES

Work in this field has been intensified because of the war and much is being done toward post-war planning for cultural relations. In addition to the projects mentioned in the section "American Library Association," about $160,000 worth of scholarly American periodicals have been purchased to assist in replenishing libraries in foreign countries following the war; a cooperative project by American libraries for purchasing foreign books and periodicals is being considered; a Books for China project, similar to the Books for Latin America, is being planned; plans are being made for the reopening of the American Library in Paris after the war, and for the establishment of others in foreign countries; library schools were founded and assistance given to various libraries in Latin America, particularly to the National Library of Peru, which was destroyed by fire on May 10, 1943; and a statement, "International Library Relations: a Memorandum on Opportunities for Government Participation," was submitted to the Secretary of State in June. Several studies were conducted during the year to determine the probable demands on American library personnel and materials which will be made when the time comes for reinformation and reconstruction abroad.

During the year a new organization, the International University Foundation, Inc., was founded, and it has as its principal aim the post-war reconstruction of European university life destroyed by the Nazis. Many libraries in the various war areas have been entirely or partially destroyed either by bombs or the resulting fires and water or by the Nazi or Japanese conquerors. Data concerning these are being collected.

British Book Week was observed by libraries, booksellers, and organizations, Oct. 24-30, 1943, under the sponsorship of the A.L.A. International Relations Board, with the approval of O.W.I. British libraries have purchased $100,000 worth of American books to interpret the United States to the people of Britain through reading. Observance of British Book Week was intended as somewhat of a reciprocal gesture.

STATE AND LOCAL LIBRARY DEVELOPMENTS

There has been a significant extension of state aid to libraries and increase in appropriations to state library agencies during the past year, due in part to the discontinuance of W.P.A. library service.

South Carolina and Wyoming were added to the list of states now having state library extension agencies, bringing the total to 47. Arizona is the only state without such an agency. Several of the established agencies, however, are still unable to carry on field service and others have limited funds and staff. State agency appropriations were increased appreciably in many states, and only a few states report small decreases.

State aid for libraries was appropriated for the first time in Tennessee —$40,000 for continuing regional library service in 13 counties in the Knoxville area, begun with T.V.A. help. A third of the states and several Canadian provinces now have some form of state aid. Appropriations were increased in Massachusetts, Michigan, and North Carolina. Encouraging results of state aid in several states are noted, both in the establishment of county and regional libraries and also in the raising of standards.

State aid for school libraries is also increasing. Several states made new or increased appropriations. In most instances the amount was matched by local funds, and in some states special appropriations were also made for teaching materials and film libraries.

A net increase of 39 in the number of counties served by county or regional libraries brings the total to 631, as compared with 592 in 1942. State aid and W.P.A. demonstrations were contributing factors in many areas. In Virginia, the Tidewater Regional Public Library was unable to continue when W.P.A. help was withdrawn.

County library laws were amended in California, Illinois, Michigan, Minnesota, Montana, and Washington. In California the library law was included in a new education code.

Publications sponsored by the A.L.A. Library Extension Board include a new edition of *The Equal*

Chance, a reissue of *The State Library Agency, Its Functions and Organization,* and a new edition of *American Library Laws* (subsidized by the Carnegie Corporation).

SERVICE OF ESTABLISHED LIBRARIES

Latest statistics show that there are still 35,000,000 persons in the United States without local public library service. In addition, about a third of the people have library service which is wholly inadequate. General and salary statistics for public libraries in the United States for 1942 were published in the *A.L.A. Bulletin 37:* 131-44, April 1943. These include data on population served, library books, borrowers, circulation, income, expenditures, and library staff. Similar statistics for college and university libraries were published in *College and Research Libraries 4:* 153-162, March, 1943. *Public Library Statistics, 1938-39,* was published by the U. S. Office of Education during the year.

ADULT EDUCATION

The A.L.A. Adult Education Board reports that libraries throughout the country have cooperated in government training programs and in those of local universities. Libraries have cooperated with O.C.D. programs, have lent collections of books to local consumer centers, and have been designated as official defense information centers, usually with the readers' adviser in charge. War information activities have increased public awareness of libraries as a source of answers to questions and solutions to problems. Libraries are carrying on many experiments with films, recordings, bookmobiles, pamphlet selling, and discussion groups as methods of adult education.

A need has been expressed by librarians working with the foreign born for basic lists of books in many languages and pocket-size foreign language translations of U. S. history and historic documents.

During the year the Braille Transcribing Section, Books for the Adult Blind, at the Library of Congress, took over the preparation of Braille materials formerly done by the American Red Cross. Funds for this work were provided by the passage of H. R. 2536, the Barden-LaFollette bill.

SURVEYS AND STUDIES

Much has been done in the way of surveys, studies, research activities and planning during the year by practically every group in the library profession. Many of these have already been mentioned in their respective categories. Through a Carnegie Corporation grant, the survey of war activities of libraries was continued (see "War Activities of College and Research Libraries" by Evelyn Steel Little in *College and Research Libraries* 4: 179-211, June 1943). In 1942 a similar survey of public libraries was conducted. Other studies also recorded in 1943 issues of *College and Research Libraries* include "A Selective Survey of the New Periodicals During the Year 1942" (March); "The North Central Association's 1943 Survey of College and University Libraries" (June); "Principles and Practice of Administrative Organization in the University Library"; and "The Use of Records in College Teaching" (September).

Research work continues in the field of microphotography. The A. L. A. Committee on Photographic Reproduction of Library Materials reports the following projects: assisted, in an advisory capacity, a committee of the American Standards Association, in the revision of tentative standards on microphotography; considered the problems involved in the preparation and use of a sample test microfilm; and reviewed the problems involved in the compilation of a needed list of master negative films. Most of the librarians in this field, who have not gone into the armed services, are preoccupied with war work. An example of the use being made of microfilm is that thousands of books and periodicals are being microfilmed and flown to universities and other institutions in China that have been forced to move inland, leaving their library collections behind.

Among the articles appearing in 1943 issues of *The Library Quarterly* were: "Public Library Expenditures in Cities of Over 100,000 Population in Relation to Municipal Expenditures and Economic Ability," and "A Technique for Evaluating the College Library Book Collection" (January); "Prospective Revenues for Schools and Libraries in the War and Post-War Periods," and "Civil Service in Public Libraries," "Manuscripts in Microfilm: Problems of Librarian and Custodian" (July); and "Manuscripts in Microfilm: Problems of Cataloger and Bibliographer" (October. See also *Publications* listed below).

LIBRARY TRAINING AND PERSONNEL

The shortage of librarians reached considerable proportions during the year with over 400 (about one fifth women) going into service; several hundred manning camp, hospital, school, and naval station libraries; many accepting positions in new or expanding libraries in war industries and government departments; and still others taking non-library positions in government service, war industries, and civilian occupations paying higher salaries. Not only are libraries handicapped by present loss of personnel, but the increasing difficulties of rebuilding their staffs suggest that they will be even more adversely affected after the war.

In 1942-43 the enrollment in 34 accredited library schools in the United States and Canada was 1,258, nearly 600 less than the enrollment in 1940-41. Of this number 1,124 are first year students, and 134 advanced. Degrees and certificates awarded from Aug. 1, 1942 to June 30, 1943 totaled 1,016. For the calendar year 1942, 1,431 degrees and certificates were awarded, of which 78 were for advanced degrees and 1,353 for first-year study.

Throughout the country, library schools changed their courses to emphasize work directly related to war and post-war questions; accelerated time schedules, lengthened summer sessions and eliminated holidays; and offered special courses for in-service training.

Libraries have suffered heavy losses, not only in professional staff but also in clerical help which has been attracted elsewhere by more remunerative positions. In this connection a study was made of "Salary and Wage Stabilization and Library Salaries" (see *A.L.A. Bulletin 37:* 264-6, Sept., 1943).

Three volumes on *Classification and Pay Plans for Libraries in Institutions of Higher Education* were published, augmenting *Classification and Pay Plans for Municipal Public Libraries,* published by the A.L.A. in 1939. A study of pension plans was made by the Annuities, Pensions, and Life Insurance Committee of the A.L.A.

The A.L.A. Committee on Refugee Librarians has done considerable work with refugee librarians from foreign countries. During 1942-43, 16 were registered at accredited library schools and several placed in library positions.

GRANTS

Numerous have been the gifts of money, book collections, and property from individuals and grants from foundations and government agencies for the advancement of libraries during the year. Many of the latter have already been mentioned. The General Education Board gave $25,000 to the University of Georgia for recataloging and reclassifying the library. The Rockefeller Foundation gave $25,000 to the University of New Mexico for books on Mexico, Central America and the Caribbean countries; and $17,650 to the Hispanic Foundation in the Library of Congress for its archive of Hispanic Culture. The Library of Congress also received an outstanding collection of Booker T. Washington papers from Tuskegee Institute.

GIFTS AND BEQUESTS

Among the numerous gifts to libraries were: $1,000,000 bequest from Mrs. James C. Stodder to the Bangor (Me.) Public Library; $50,000 trust fund from Mrs. Wilson H. Pierce and Dr. Frederic Bancroft to the Knox College Library, Galesburg, Ill.; $30,000 gift from George F. Ivey and family to the Worth Elliot-Carnegie Library, Hickory, N. C.; $25,000 gift from Mrs. Charles Worcester to the Dwight Foster Public Library, Ft. Atkinson, Wis.; $15,000 bequest from Mrs. Charles B. Witherle to the Witherle Memorial Library, Castine, Me.; $10,000 from local industries to the Milwaukee Public Library; $8,700 and a farm valued at $650 from the estate of Martin Wheelock to the Morrisville (Vt.) Public Library; and $8,000 and two lots from Mrs. Flora M. Laird for a library building at Myrtle Point, Ore.

BOOK GIFTS

Included in the large gifts of book collections were: the Theodore Roosevelt collection from The Roosevelt Memorial Association to Howard College Library; ten tons of general office records from 1850 to 1887 from the Chicago, Burlington and Quincy Railroad to the Newberry Library, Chicago; the Thomas Mann literary collection purchased at auction by W. T. Grant for $1,000,000 in war bonds and given to the University of Kansas City library; 1,500 books and funds for their care from the late Dr. Alfred J. Person, former minister to Poland and Finland, to Drake University Library, Des Moines, Ia.; and a bequest of $10,000 to supplement a book collection already presented, to Emory University Library, Atlanta, Ga., by the late Dr. J. M. McCandless.

LIBRARY BUILDINGS

Because of the war, few new library buildings have been started. Among those completed late in 1942 or early 1943 are Logansport (Ind.) Public Library, Lake View Branch of Chicago Public Library; memorial libraries in Hillsdale, Ill., Limestone, Me., and North Branford, Conn.; libraries at Union Theological Seminary, Richmond, Va., and St. Mary's College, Holy Cross, Ind., and the first unit of the new Washington (D. C.) Public Library. Among the post-war plans being made by libraries for buildings are those at San Diego, Calif.; Worcester, Mass.; Corpus Christi, Tex., and Queens College, Flushing, N. Y.

AMERICAN LIBRARY ASSOCIATION

Officers.—Association officers for the year 1943-44 are: president, Althea H. Warren, Public Library, Los Angeles, Calif.; president-elect and first vice-president, Carl Vitz, Public Library, Minneapolis, Minn.; second vice-president, Margery Doud, Public Library, St. Louis, Mo.; and treasurer, Rudolph H. Gjelsness, Biblioteca Benjamin Franklin, Mexico City. About 15,000 librarians, library trustees, and individuals interested in library service are members of A.L.A., which was organized in 1876 to promote the foundation and improvement of libraries in the United States and Canada. The executive secretary is Carl H. Milam, and the A.L.A. maintains its headquarters at 520 N. Michigan Ave., Chicago. On Aug. 2, 1942, the A.L.A. opened an International Relations Office in Washington, D. C. with a grant from the Rockefeller Foundation. The director is Dr. Harry Miller Lydenberg who will supervise the international activities of the Association.

Work in Latin America.—Under contracts signed with the Department of State, the A.L.A. will supervise three American libraries in Latin America: the Biblioteca Artigas-Washington in Montevideo, Uruguay; the Biblioteca Benjamin Franklin in Mexico City, Mexico; and the Biblioteca Americana de Nicaragua in Managua, Nicaragua; and will continue the Books for Latin America Project, which is supplying about $200,000 worth of books by U. S. authors to Latin American libraries.

Conferences.—Due to the war and transportation difficulties, the annual summer and winter conferences were not held, and none is scheduled for the future. The A.L.A. National Institute on War and Postwar Problems was held Jan. 30-31, 1943, in Chicago (see "Libraries," THE AMERICAN YEAR BOOK, 1942) and was followed by a series of 18 regional and many local institutes, financed by a grant from the Carnegie Corporation. Like the National Institute, most of the regional institutes were scheduled for two-day sessions, while the local institutes usually had one-day programs. These varied in organization and sponsorship according to the special needs and interests of each area, and representatives of many organizations were brought into the discussions as speakers or members of panels and as invited guests. Post-war questions were emphasized at most of the institutes with somewhat more attention to international than domestic problems, depending upon the locality. The relationships between domestic problems today and their implications for the future led frequently to international aspects of the same problems. Practical problems facing libraries in their wartime services were also stressed. The range of discussion covered problems confronting Americans as a whole, such as domestic questions regarding racial relationships, agricultural problems, juvenile delinquency, and adjustments of citizens to wartime conditions and higher taxes; international questions on the foreign policy of the United States, economic, educational and political cooperation, and the desirability of an international organization; and the problems facing librarians in obtaining and disseminating information regarding the war and post-war planning; in developing self-education; in extending library services and resources and in securing adequate financial support for libraries. While the attendance at the National Institute was limited by A.L.A. invitation because of O.D.T. regulations and because the desired purposes could not be achieved by a large group, regional institutes had representation from a maximum number of libraries, and local institutes were open without restriction.

Awards.—Elizabeth Janet Gray won the annual Newbery Medal for *Adam of the Road,* judged the best contribution to children's literature published during the previous year. The Caldecott Medal, for the most distinguished picture book of the year, was awarded to *The Little House* by Virginia Lee Burton. The annual A.L.A. library trustee citations of merit were presented to Mrs. George H. Tomlinson, trustee of the Evanston (Ill.) Public Library and Ora L. Wildermuth, trustee of the Gary (Ind.) Public Library.

Finances.—The Association's income in 1942-43 (excluding cash balances amounting to $88,000 on Sept. 1, 1942) was about $639,500. Income from membership dues, conference, sale of publications, advertising, subscriptions, etc., was about $170,000; $391,000 came from outside sources in the form of grants or payments for special purposes and $78,500 was endowment income. The endowment funds now total approximately $2,111,900.

Surveys and Projects.—Several surveys and projects are being conducted by the A.L.A., including a survey of the resources of the principal libraries in the Kansas City area; a survey of the U. S. Army Medical Library, the compilation of a guide to comparative literature and cultural understanding (with the cooperation of the Association of American Colleges and the National Council of Teachers of English); and a survey on hospital library service since the First World War (with the cooperation of the American College of Surgeons; the American Medical Association, American Hospital Association and Medical Library Association).

PUBLICATIONS

During 1943, the A.L.A. published, through its Department of Publishing and Cooperative Services, a number of book lists to further the war effort. Examples are *Mobilizing Our Brain*

Power, Canada at War, The Geography of War, Physical Fitness, The United Nations, More About Foods and Nutrition, The Family in Wartime, Freedom from Want, and *Preparing for Peace.* The A.L.A. also published the following books: Rue's *Subject Index to Books for Primary Grades* and *Subject Index to Books for Intermediate Grades* (first supplement); *War and Postwar Issues: Proceedings of the National Institute of the A.L.A.*; Pomeroy's *ABC's for Hospital Libraries*; Doe's *Handbook of Medical Library Practices;* Rossell's *Public Libraries in the Life of the Nation*; Hadley's *John Cotton Dana, a Sketch*; Joeckel's *Post-War Standards for Public Libraries*; Power's *Work With Children in Public Libraries*; Mann's *Introduction to Cataloguing and Classification of Books* (2nd edition); Thompson's *A.L.A. Glossary of Library Terms*; and *Classification and Pay Plans for Libraries in Institutions of Higher Education* (3 vol.). The Association also issues the following periodicals: *A.L.A. Bulletin, The Booklist, College and Research Libraries*; *Hospital Book Guide, Subscription Books Bulletin,* and *Journal of Documentary Reproduction,* which has been discontinued for the duration of the war.

Among the books in the field produced by other publishers were: Butler's (ed.) *The Reference Function of the Library*; Manley's *Public Library Service to Business*; Mason's *The Patient's Library: a Guide-Book for Volunteer Hospital Library Service;* Williamson's and Jewett's (eds.) *Who's Who in Library Service*; Special Libraries Association's *United States Government Periodic Publications*; Van Male's *Resources of Pacific Northwest Libraries, a Survey of Facilities for Study and Research*; Henry's (ed.) *National Society for the Study of Education, the Forty-Second Yearbook: Part II, The Library in General Education*; Kunitz's and Haycroft's *Twentieth Century Authors, a Bibliographical Dictionary of Modern Literature*; and Basset's *A Cataloging Manual for Law Libraries.*

PERIODICAL PUBLICATIONS

American Teacher
506 South Wabash Ave., Chicago.

Annals, The
American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.

Business Education World
270 Madison Ave., New York City.

Child Study
221 West 57th Street, New York City.

Education
370 Atlantic Ave., Boston.

Educational Method
1201 Sixteenth Street, N.W., Washington, D. C.

Educational Record
744 Jackson Place, Washington, D. C.

Industrial Arts and Vocational Education
540 N. Milwaukee St., Milwaukee, Wis.

International Journal of Religious Education
203 North Wabash Ave., Chicago.

Journal of Adult Education
60 East 42nd Street, New York City.

Journal of Business Education
512 Brooks Building, Wilkesbarre, Pa.

Journal of Education
6 Park Street, Boston.

Journal of Educational Psychology
10 East Centre Street, Baltimore.

Journal of Educational Sociology
32 Washington Place, New York City.

Journal of Engineering Education
University of Pittsburgh, Pittsburgh, Pa.

Journal of Geography
458 Ahnaip St., Menasha, Wis.
Journal of Higher Education
Ohio State University, Columbus.
Journal of the National Education Association
1201 Sixteenth Street N.W., Washington, D. C.
Journal of Negro Education
Howard University, Washington, D. C.
Journal of Physical Education
Dayton, Ohio.
Junior College Journal
730 Jackson Place, Washington, D. C.
Library Journal
62 West 45th Street, New York City.
Library Quarterly
5750 Ellis Ave., Chicago.
National Parent-Teacher
600 S. Michigan Blvd., Chicago.
National Student Mirror
8 West 40th Street, New York City.
Occupations
425 West 123d St., New York City.
Parents' Magazine
52 Vanderbilt Ave., New York City.
Peabody Journal of Education
George Peabody College for Teachers, Nashville, Tenn.
Pitman's Journal
2 West 45th Street, New York City.
Progressive Education
221 West 57th St., New York City.
Religious Education
59 East Van Buren Street, Chicago.
School Management
52 Vanderbilt Ave., New York City.
School Review
5835 Kimback Ave., Chicago.
World Federation News
1201 Sixteenth Street, N.W., Washington, D. C.

COGNATE SOCIETIES AND RESEARCH INSTITUTIONS

(For further information, the reader may address the following organizations)

GENERAL

American Academy of Political and Social Science, 3457 Walnut Street, Philadelphia.
American Assn. for Adult Education, 525 W. 120th St., New York City.
American Council on Education, 744 Jackson Pl., N.W., Washington, D. C.
American Council of Learned Societies, 1219 16th St., N.W., Washington, D. C.
American Federation of Teachers, 506 S. Wabash Ave., Chicago, Ill.
General Education Board, 49 W. 49th St., New York City.
Bureau of Educational Reference and Research, University of Michigan, Ann Arbor, Mich.
National Congress of Parents and Teachers, 600 S. Michigan Blvd., Chicago, Ill.
National Council of Education, Teachers College, Columbia University, New York City.
National Education Assn. of the U. S., 1201 16th St., N.W., Washington, D. C.
National Research Council, Division of Educational Relations, 2101 Constitution Ave., N.W., Washington, D. C.
National Society for the Study of Education, 5835 Kimback Ave., Chicago.
Public Education Assn., 745 Fifth Ave., New York City.

INTERNATIONAL

Institute of International Education, 2 W. 45th St., New York City.
International Council for the Education of Exceptional Children, 3 E. 25th St., Baltimore, Md.
International Council of Religious Education, 297 Fourth Ave., New York City.

Pan-American Educational Congress, Universidad de Chile, Cosilla 2543, Santiago, Chile.

TEACHERS

American Federation of Teachers, 506 S. Wabash Ave., Chicago, Ill.

Carnegie Foundation for the Advancement of Teaching, 522 Fifth Ave., New York City.

Educators Assn., Inc., 307 Fifth Ave., New York City.

National Student Federation of America, 274 Madison Ave., New York City.

Students International Union, Inc., 522 Fifth Ave., New York City.

Teachers Union of the City of New York, 13 Astor Pl., New York City.

SCHOOLS

American School Citizenship League, 295 Commonwealth Ave., Boston, Mass.

Child Study Assn. of America, Inc., 221 W. 57th St., New York City.

National Assn. of High School Supervisors and Inspectors, State Department of Education, Columbus, Ohio.

National Assn. of Secondary School Principles, 1201 Sixteenth St., N.W., Washington, D. C.

National Kindergarten Assn., 8 W. 40th St., New York City.

Y.M.C.A. Educational Secretaries Assn., 55 Hanson Pl., Brooklyn, New York City.

COLLEGES AND UNIVERSITIES

American Assn. of Collegiate Registrars, George Peabody College for Teachers, Nashville, Tenn.

American Assn. of Junior Colleges, 730 Jackson Pl., Washington, D. C.

American Assn. of University Professors, 1155 16th St., N.W., Washington, D. C.

American Assn. of University Women, 1634 I St., N.W., Washington, D. C.

Association of American Colleges, 19 W. 44th St., New York City.

Association of American Universities, Yale University, New Haven.

Association of Colleges for Negro Youth, Fisk University, Nashville, Tenn.

Association of Land Grant Colleges and Universities, c/o Experiment Station, Lexington, Ky.

College Entrance Examination Board, 425 W. 117th St., New York City.

National Assn. of State Universities, Miami University, Oxford, Ohio.

National University Extension Assn., Indiana University, Bloomington, Ind.

New England Assn. of Colleges and Secondary Schools, Tufts College, Medford, Mass.

Phi Beta Kappa, United Chapters of, 12 E. 44th St., New York City.

Sigma Phi Society, 149 Broadway, New York City.

PROFESSIONAL EDUCATION

American Assn. of Teachers Colleges, State Normal School, Oneonta, New York.

American Medical Assn., Council on Medical Education and Hospitals, 535 N. Dearborn St., Chicago, Ill.

Association of American Law Schools, University of Indiana, Bloomington, Ind.

Association of American Medical Colleges, 5 S. Wabash Ave., Chicago, Ill.

Section of Legal Education, American Bar Assn., 1140 N. Dearborn St., Chicago, Ill.

Society for the Promotion of Engineering Education, University of Pittsburgh, Pittsburgh, Pa.

SPECIAL EDUCATION

American Assn. to Promote Teaching of Speech to the Deaf, School for the Deaf, Staunton, Va.

American Humane Education Society, 180 Longwood Ave., Boston, Mass.

American Physical Education Assn., 311 Maynard St., Ann Arbor, Mich.

National Assn. of the Deaf, 3633 E. Tremont Ave., New York City.

VOCATIONAL

American Assn. for the Advancement of Agricultural Teaching, Iowa State College, Ames, Ia.

American Home Economics Assn., 620 Mills Bldg., Washington, D. C.

American Vocational Association, 1010 Vermont Ave., N.W., Washington, D. C.

National Vocational Guidance Assn., 425 West 123rd St., New York City.

Workers Educational Bureau of America, Machinists Bldg., Washington, D. C.

Note: For additional educational societies consult U. S. Office of Education, Washington, D. C.

NECROLOGY FOR 1943

Abd-El-Aziz, Muley, former Sultan of Morocco, 63, June 9.

Aberhart, William C., Prime Minister of Alberta, Canada, 64, May 23.

Adamowski, Timothée, violinist and teacher, 86, April 18.

Affonseoa, José Gaspar da, Archbishop of Sao Paulo, Brazil, Aug. 26.

Ailsa, Fourth Marquess of, British lawyer and soldier, 70, Feb. 27.

Albrecht, Prof. Max J. F., former president of Concordia College, 82, Oct. 22.

Alexander, William A., educator and former dean of Swarthmore College, 67, July 8.

Alger, Dr. John L., educator, 78, Jan. 11.

Allen, Dr. Edgar, anatomist, 50, Feb. 3.

Ames, Dr. Joseph S., President Emeritus of Johns Hopkins University, 78, June 24.

Amir Mohamet Ibn Abdul Rahman, brother of King Ibn Saud of Saudi Arabia, July 27.

Anderson, Sara (Mrs. Joseph Regneas), opera singer and teacher, 65, Dec. 20.

Andrews, Dr. Charles McLean, educator and historian, 80, Sept. 9.

Andrews, Lieut. Gen. Frank M., Commander of U. S. forces in Europe, 59, May 3.

Andrews, Dr. John B., leader in social and labor legislation, 62, Jan. 4.

Andrews, Maude Annulet, journalist and novelist, 80, Jan. 7.

Ansberry, Timothy T., former Congressman (Ohio), 71, July 5.

Antoine, Andre, French actor and manager, 85, Oct. 21.

Appleyard, Rollo, British engineer, physicist and inventor, 76, March 1.

Armstrong-Jones, Sir Robert, British surgeon and brain specialist, 85, Jan. 30.

Arnold, Dr. Sarah L., educator, 84, Feb. 26.

Arny, Dr. Henry V., chemist and former dean of the College of Pharmacy at Columbia University, 75, Nov. 3.

Aronson, Naoum, Russian sculptor, 71, Sept. 30.

Ayers, Frank W., vaudeville actor, 69, Nov. 28.

Barbour, Prof. Henry G., Yale School of Medicine scientist, 57, Sept. 23.

Barbour, Col. Percy E., mining engineer and metallurgical authority, 67, May 4.

Barbour, W. Warren, U. S. Senator (N. J.), 55, Nov. 22.

Barker, Dr. Lewellys F., authority on eugenics, heredity, neurology, 76, July 13.

Barlow, Reginald, actor and soldier, 76, July 6.

Barney, Mrs. Elizabeth C., former president of the National Society of the Daughters of the American Revolution, 75, Nov. 2.

Barr, Dr. Norman B., welfare worker and founder of Olivet Institute, Chicago, 75, April 1.

Barrett, Major Gen. Charles D., U. S. Marines unit commander, 58, Oct. ?

Barth, Brig. Gen. Charles H., Chief of Staff to Gen. Andrews, 39, May 3.

Barton, Pamela, British and American golf champion, 26, Nov. 13.

Barzelata, Lorenzo, Mexican composer, 45, July 13.

Baur, Harry, French film actor, April 8.

Beach, Capt. Edward L., naval commander, 76, Dec. 20.

Beatty, Prof. Arthur, teacher of English and author, 73, Feb. 27.

Beatty, Sir Edward, Canadian railroad executive, 64, March 23.

Beavan, Dr. Albert W., president of Colgate-Rochester Divinity School, 60, Jan. 24.

Beck, Marcus W., Georgia jurist, 81, Jan. 21.

Beers, Clifford W., founder of the National Committee for Mental Hygiene, 67, July 9.

Belmore, Alice (Cliffe), English actress, 73, July 31.

Benét, Stephen Vincent, poet and novelist, 44, March 13.

Benjamin, Walter R., autograph dealer and authority on historical manuscripts and letters, 89, Sept. 28.

Bernie, Ben, radio, stage, and screen star, 52, Oct. 20.

Bernstein, J. Sidney, New York State jurist, 66, Dec. 9.

Bevan, Dr. Edwyn R., British historian and archæologist, 79, Oct. 19.

Bianchi, Mrs. Martha Dickinson, poet, and niece and biographer of Emily Dickinson, 77, Dec. 21.

Bierens de Haan, Dr. J. D., Dutch philosopher and clergyman, 76, Sept. 27.

Bikaner, Maharajah of, 62, Feb. 2.

Binyon, Laurence, English poet and critic, 73, March 10.

Birch, Reginald B., illustrator, 87, June 17.

Bissell, Pelham St. George, New York City jurist and civic leader, 56, Sept. 8.

Blake, Dr. Edgar, retired M.E. bishop and church leader, 73, May 26.

Blatchford, Robert, British socialist author, 92, Dec. 17.

Bledsoe, Jules, Negro singer, 44, July 14.

Blumenthal, Hugo, banker and benefactor, 81, Aug. 8.

Bond, Carroll Taney, Maryland jurist, 59, Jan. 18.

Bonham, Milledge L., Chief Justice of South Carolina, 88, June 23.

Bordes, Pierre, former French Governor General of Algeria, 72, July 24.

Boris III, King of Bulgaria, 49, Aug. 28.

Bosworth, Hobart Van Zandt, film pioneer actor, 76, Dec. 30.

Boughton, Alice, portrait photographer, 77, June 21.

Boutens, Dr. Pieter C., Dutch poet, 73, March 14.

Bowring, Sir Edgar R., British shipping executive and public official, 84, June 23.

Bracco, Roberto, Italian dramatist and novelist, 82, April 21.

Briggs, Walter B., Associate Librarian Emeritus of the Harvard College Library, 72, Oct. 31.

Brigham, Dr. Carl C., psychologist, 52, Jan. 24.

Brown, Dr. William A., Presbyterian clergyman and teacher, 78, Dec. 15.

Bryan, George S., editor and author, 69, Dec. 22.

Bumpus, Dr. Hermon C., educator, naturalist, zoologist, 81, June 21.

Bunge, Alejandro E., Argentine economist and financier, 73, May 24.

Burbridge, George A., dean of the Maritime College of Pharmacy in Halifax, N. S., 72, Sept. 28.

Burdett, George A., Harvard organist, instructor, and composer, 87, March 25.

Burns, John, British labor leader and Parliamentarian, 84, Jan. 24.

Burrard, Sir Sidney G., British geologist, 82, March 16.

Busch, Carl, composer, 81, Dec. 19.

Buzzi-Peccia, Arturo, Italo-American composer and voice teacher, 88, Aug. 29.

Byron, Arthur W., actor, 71, July 16.

Cady, Dr. Hamilton P., chemist and discoverer of helium in natural gas, 68, May 26.

Caillaux, Mme. Joseph, widow of the former Premier of France, Jan. 30.

Cajander, Prof. Aimo Kaarlo, former Premier of Finland, 63, Jan. 21.

Calderon, Dr. Luis, Colombian diplomat, 79, Aug. 19.

Calkins, Dr. Gary N., protozoologist, 73, Jan. 4.

Camden, Harry P., soldier and sculptor, 43, July 29.

Campbell, Dr. C. Macfie, psychiatrist and medical director of the Boston Psychopathic Hospital, 66, Aug. 7.

Cannon, Sylvester Q., Mormon leader, 77, May 29.

Carlton, Dr. William N. C., librarian and author, 69, Feb. 3.

Carlyle, Rev. Dr. Alexander J., British religious and literary authority, 81, May 28.

Caruana, Monsignor Maurus, Archbishop of Malta, 76, Dec. 17.

Carver, Dr. George Washington, Negro scientist, 78, Jan. 5.

Castellon, Dr. Hildebrando, Nicaraguan statesman and diplomat, Jan. 13.

Cattani-Amadori, Federico, Cardinal, 87, April 12.

Chamberlin, Georgia L., teacher and author, 81, Sept. 6.

Chester, Dr. Frederick D., bacteriologist, 81, Jan. 1.

Chittenden, Dr. Russell H., former head of Sheffield Scientific School, Yale University, 87, Dec. 26.

Church, Samuel H., president of the Carnegie Institute, 85, Oct. 11.

Clark, Barzilla W., former Governor of Idaho, 61, Sept. 21.

Clawson, Rudger, Mormon Church official, 86, June 21.

Clifford of Chudleigh, Tenth Baron, British radiologist, 84, July 8.

Coates, Joseph G., New Zealand Minister of Armed Forces and War Coordination, 65, May 27.

Cobb, Rev. Dr. Henry E., senior minister of the Collegiate Reformed Protestant Dutch Church (N. Y. City), 80, Aug. 15.

Cochrane, Aaron Van Schaick, New York State jurist, 85, Sept. 7.

Colles, Dr. H. C., British music critic, 63, March 4.

Collingwood, Prof. R. G., British authority on Roman history in England, 53, Jan. 11.

Colton, Arthur W., poet and author, 75, Dec. 28.

Connaught, Duke of, 28, April 26.

Connor, Jerome, Irish-American sculptor, 70, Aug. 21.

Contesse, Susan, journalist, 83, Jan. 16.

Cook, Dr. Walter W., law scholar and teacher, 70, Nov. 7.

Cordeaux, Sir Harry, British colonial official, 73, July 2.

Corning, Parker, former Congressman (N. Y.), 69, May 24.

Costa, Vincente, Uruguayan editor and banker, 63, Sept. 5.

Cottenham, Sixth Earl of, racing motorist and author, 40, July 20.

Coulter, Dr. Stanley E., former Dean of Purdue University, 90, June 26.

Cowen, Philip, Jewish leader and publisher, 89, April 20.

Crabitès, Pierre, jurist, diplomat, author, 66, Oct. 9.

Creal, Edward W., Congressman (Ky.), 59, Oct. 13.

Cremonesi, Carlo, Cardinal, Vatican official, 77, Nov. 25.

Crile, Dr. George W., surgeon-scientist, 78, Jan. 7.

Crosby, John C., Massachusetts jurist, 84, Oct. 14.

Cross, Frank L., inventor, 72, July 1.

Cudahy, John C., former U. S. Ambassador to Poland and Belgium, 55, Sept. 6.

Culkin, Francis D., Congressman (N. Y.), 68, Aug. 4.

Currell, Dr. William S., former president of University of South Carolina, 85, July 17.

Currie, Dr. Thomas W., president of the Austin (Tex.) Presbyterian Theological Seminary, 64, April 22.

Curtis, George V., Anglo-American painter and art instructor, 87, Aug. 21.

Dafoe, Dr. Allan Roy, Canadian physician attending Dionne quintuplets, 60, June 2.

Danner, Mrs. Louis Rutledge, worker among lepers, 80, Sept. 25.

Dardel, Nils de, Swedish artist, 55, May 25.

Darrow, George P., former Congressman (Penn.), 60, June 7.

Darwin, Major Leonard, British soldier and son of Charles Darwin, 93, March 21.

Dashiell, Willard, actor and lawyer, 75, April 19.

Da Silva, Prof. Alfredo, Brazilian jurist, 80, July 30.

Davies, Ben, Welsh singer, 84, March 29.

Davies, Clara Novello, singer, choral director and song writer, 82, Feb. 7.

Davis, Charles B., U. S. District Court judge, 66, March 3.

Davis, Jonathan M., former Governor of Kansas, 72, June 27.

Debeney, Gen. Marie Eugene, French military leader in the First World War, 79, Nov. 9.

Deering, Mrs. Charles, philanthropist and donor of the Charles Deering Library at Northwestern University, 86, Nov. 29.

De Geer, Baron Gerard, Swedish geologist, 84, Aug. ?

De Haven, David W., Tennessee jurist, 69, June 4.

Delafield, E. M. (Elizabeth M. Dashfield), British novelist, 52, Dec. 2.

Dennis, Charles H., editor emeritus of *The Chicago Daily News,* 83, Sept. 25.

Denniston, Reynolds, actor, 62, Jan. 29.

Denny, Dr. Collins, retired M. E. Bishop, church leader, and educator, 88, May 12.

de Rivera, Mrs. Belle, feminist leader, 95, March 30.

D'Erlanger, Baron Frederick A., British banker and composer, 75, April 26.

Dett, Dr. Robert N., Negro composer and teacher of music, 60, Oct. 2.

Diaz, Rafaelo, opera singer, 58, Dec. 12.

Dickinson, First Baron, British religious and peace leader, 84, June 1.

Dickinson, Luren D., former Governor of Michigan, 84, April 22.

Diefendorf, Dr. Allen R., psychiatrist, 72, July 30.

Dinand, Rev. Joseph N., Catholic bishop and educator, 73, July 29.

Dinwiddie, Courtenay, sociologist, general secretary of the National Child Labor Committee, 60, Sept. 13.

Dixey, Henry E., actor, 84, Feb. 25.

Dobson, William A., naval architect, 89, June 3.

Dockweiler, John F., former Congressman (Calif.), 47, Jan. 31.

Dodd, Dr. Isabel F., archæologist, 86, Feb. 25.

Dohan, Dr. Edith Hall, archæologist and author, 65, July 14.

Duncan, Sir Patrick, Governor General of the Union of South Africa, 72, July 17.

Dyer, Walter A., editor and author, 64, June 20.

Earl, Maud, Anglo-American painter of dogs, July 7.

Eckel, John C., journalist and Dickens authority, 85, Dec. 20.

Edgcomb, Ernest I., New York State jurist, 76, June 7.

Edwards, William H., football star and public official, 66, Jan. 4.

Ely, Dr. Richard T., economist and teacher, 89, Oct. 4.

Emerson, Dr. Alfred, archæologist and teacher, 84, Oct. 19.

Emslie, Robert D., Canadian sportsman and baseball umpire, 84, April 26.

Engel, Joseph W., motion picture pioneer, 60, April 18.

Englebright, Harry L., Representative in Congress (Cal.), 59, May 13.

Engleman, Dr. James O., former president of Kent State University (Ohio), 70, Sept. 15.

Erb, Dr. Donald M., president of the University of Oregon, 43, Dec. 23.

Ewing, Dr. James, cancer authority, 76, May 16.

Fairchild, Prof. Herman L., geologist and former president of Geological Society of America, 93, Nov. 29.

Falconer, Sir Robert, former president of the University of Toronto, 76, Nov. 4.

Farrell, James A., former president of U. S. Steel Corporation, 80, March 28.

Felt, Dr. E. Porter, former State Entomologist of New York, 75, Dec. 14.

Fish, Bert, U. S. Minister to Portugal, 67, July 21.

Fitzroy, Edward Algernon, Speaker of the House of Commons, 73, March 3.

Fitzwilliam, Earl, British landowner and explorer, 70, Feb. 15.

Ford, Edsel B., motor industrialist, son of Henry Ford, 49, May 26.

Forrest, Brig. Gen. Nathan B., Air Corps officer, 38, June 13.

Forster, Rudolph, veteran White House aide, 70, July 7.

Fortoul, José Gil, former Provisional President of Venezuela, 83, June 15.

Fosdick, Frederick W., Massachusetts jurist, 67, Feb. 24.

Foxworth, P. E., assistant director of Federal Bureau of Investigation in New York, 36, Jan. 15.

Franco, Dr. Afranio de Mello, Brazilian statesman, 72, Jan. 1.

Freedlander, Joseph H., architect, 73, Nov. 23.

Freeman, Right Rev. James E., Episcopal Bishop of Washington (D. C.), builder of the National Cathedral, 76, June 6.

Freeman, Dr. R. Austin, British writer of mystery novels, 81, Sept. 30.

Fremantle, Sir Francis E., British member of Parliament, 71, Aug. 26.

Frye, Dwight, stage and screen actor, 44, Nov. 7.

Fuqua, Major Gen. Stephen O., former chief of infantry, U. S. A., 68, May 11.

Furman, Franklin De R., former dean of Stevens Institute of Technology, 73, Nov. 20.

Gager, Dr. C. Stuart, director of the Brooklyn Botanic Garden, 70, Aug. 9.

Gainford, Lord (J. A. Pease), British statesman and banker, 83, Feb. 15.

Galindo, Gen. Carlos Blanco, former Provisional President of Bolivia, 61, Oct. 2.

Galway, Viscount (G. V. A. Monckton-Arundell), British official, 61, March 27.

Gaselee, Sir Stephen, British librarian and keeper of papers at the Foreign Office, 60, June 16.

Gavegan, Edward J., New York State jurist, 79, Feb. 5.

Gay, Maria (Zenatello), opera singer, 64, July 29.

Gaylord, Rev. Franklin A., international Y.M.C.A. leader, 87, Aug. 14.

Geenzier, Enrique, Panamanian diplomat and poet, 56, Sept. 21.

Gerken, Rudolph A., Catholic Archbishop of Santa Fé, 55, March 2.

Gilchrist, Major Gen. Harry L., former chief of U. S. Chemical Warfare Service, 73, Dec. 26.

Gillet, Louis, French art critic, 67, July 1.

Gillmore, Frank, actor, 75, March 29.

Glaser, Dr. Curt, former director of State Art Library of Berlin Museums, 64, Nov. 23.

Glyn, Elinor, English writer of sensational novels, 78, Sept. 23.

Goetschius, Dr. Percy, composer, author and teacher of music, 90, Oct. 29.

Goodspeed, Dr. Arthur W., physicist and roentgen ray authority, 82, June 6.

Graham, George P., Canadian statesman, 83, Jan. 2.

Grand, Sarah (Mrs. David McFall), British novelist and feminist leader, 88, May 12.

Granet, Sir Guy, British railway executive, 75, Oct. 12.

Gravereaux, Lieut. Claude, French army hero, 30, Nov. 21.

Green, Horace, author, publisher, and war correspondent, 58, Nov. 14.

Gregory, Mrs. Annie Knight, last real daughter of the American Revolution, 100, Dec. 17.

Groenman, Frans E. H., Netherlands Minister to Canada, 60, June 20.

Guardia y Munoz, Dr. Rafael Calderon, former Vice President of Costa Rica, 82, June 15.

Guiterman, Arthur, poet, 71, Jan. 11.

Guyer, Ulysses S., Congressman (Kan.), 74, June 5.

HacKenley, John, Anglican Archbishop of Nova Scotia, 66, Nov. 15.

Haggard, Stephen, British actor, 31, March ?.

Haines, Robert T., actor and producer, 75, May 6.

Hall, Radclyffe, English novelist, 57, Oct. 7.

Hall, Admiral Sir Reginald, former head of the British Naval Intelligence Service, 73, Oct. 22.

Halsey, Rev. Walter N., former dean, University of Omaha, Dec. 22.

Hammerstein-Equord, Col. Gen. Baron Kurt von, German soldier, 65, April 24.

Hanson, Dr. J. C. M., librarian and teacher, 79, Nov. 8.

Harbord, Frank W., British steel manufacturer, 82, Jan. 2.

Hardinge, Hal W., mining engineer and inventor, 87, Sept. 15.

Harper, Prof. Samuel N., authority on Russian language and literature, 60, Jan. 18.

Harris, Alfred F., pioneer in development of offset lithographic press, 83, June 27.

Harris, Gen. John W., National Commander of the United Confederate Veterans, 94, Feb. 20.

Hart, Dr. Albert Bushnell, educator and historian, 88, June 16.

Hart, Frances Noyes, writer of mystery novels, 53, Oct. 25.

Hart, Lorenz, song writer, 47, Nov. 22.

Hartley, Marsden, marine and landscape painter, 66, Sept. 2.

Hassani, Sheik Tajedding, President of Syria, Jan. 17.

Hawkes, Dr. Herbert E., dean of the College, Columbia University, 70, May 4.

Hayashi, Gen. Senjuo, former Premier of Japan and military leader, Feb. 4.

Headfort, Marquess of, president of the Royal Humane Society of Eire, 64, Jan. 29.

Henry, Charles Arsene, French ambassador to Japan, 62, Nov. 14.

Henrys, Major Gen. Paul Prosper, French officer in First World War, 81, Nov. 10.

Herbert, Sir John A., former Governor of Bengal, 48, Dec. 11.

Herne, Katharine Corcoran, actress, 86, Feb. 8.

Herzog, Rudolf, German author, 73, Feb. 4.

Heward, Leslie H., British musician and composer, 45, May 3.

Hewart, Viscount, former Lord Chief Justice of England, 73, May 5.

Heymann, Dr. Lida G., German feminist leader, 75, Aug. 7.

Heyward, Duncan C., former Governor of South Carolina, 78, Jan. 23.

Hibbard, Frederick P., former State Department aide, 49, Aug. 23.

Higgins, William J., justice of the Supreme Court of Newfoundland, 63, Oct. 7.

Hijmans van den Bergh, Dr. Albert A., Dutch urologist and educator, 73, Oct. 18.

Hilbert, Prof. David, German mathematician, 81, Feb. 19.

Hill, Dr. Albert Ross, former president of the University of Missouri, 74, May 6.

Hinsley, Arthur, Cardinal, Catholic Primate of Great Britain, 77, March 17.

Hirst, Lord, British electrical industrialist, 79, Jan. 22.

Hodson, William, welfare leader and official, 51, Jan. 15.

Hoernlé, Prof. R. F. A., South African educator and philosopher, July 21.

Hogan, Rev. Aloysius J., former president of Fordham University, 52, Dec. 17.

Holz, Richard E., Salvation Army leader, 79, June 22.

Hood, Rev. Dr. Solomon P., educator, editor, and diplomat, 90, Oct. 12.

Hopkins, Richard J., Federal jurist, 70, Aug. 28.

Horwood, Sir William, former head of Scotland Yard, 75, Nov. 16.

Hough, U. S. N., Rear Admiral Henry H., former governer of the Virgin Islands of the United States, 72, Sept. 9.

Hovey, Dr. George Rice, educator, 83, Jan. 28.

Howard, Leslie, actor, 50, June 1.

Hrdlicka, Dr. Ales, anthropologist, 74, Sept. 5.

Hunt, Livingston, Rear Admiral U. S. N., 83, Jan. 18.

Hurst, Carlton B., veteran consular official, 76, Aug. 28.

Ingerman, Sergius, Russo-American Socialist leader, 75, Feb. 18.

Irvine, Sir William H., former Premier of Victoria, Australia, 85, Aug. 20.

Isham, Norman M., architect and author, 78, Jan. 1.

Jacobs, W. W., British writer of sea stories, 79, Sept. 1.

Jaquith, Dr. Harold C., educator, 54, April 20.

Jason, Rev. Dr. William C., Negro clergyman and former president of the State (Del.) College for Colored Students, 84, July 8.

Jeffreys, Ellis, British actress, 74, Jan. 21.

Jerez, Dr. Remigio, Nicaraguan jurist, 93, May 27.

Jespersen, Dr. Otto, Danish educator, 82, April 30.

Johnson, Orrin, actor, 77, Nov. 24.

Johnson, Paul B., Governor of Mississippi, 63, Dec. 26.

Jules-Bois, Dr. H. A., French author, 74, July 2.

Justo, Agustin P., former President of Argentina, 66, Jan. 10.

Kellas, Eliza, co-founder and first president of Russell Sage College, April 10.

Kellogg, Dr. John H., surgeon, health authority, and food expert, 91, Dec. 14.

Kelly, Dr. Howard A., surgeon and research worker, 84, Jan. 12.

Kent, Dr. Raymond A., president of the University of Louisville, 59, Feb. 26.

Keppel, Dr. Frederick P., former president of the Carnegie Corporation and dean of Columbia College, 68, Sept. 8.

Kharitonoff, Lieut. Gen. Fedor M., Russian soldier, defender of Rostov, 44, May 27.

Kimball, Dr. James H., meteorologist and head of U. S. Weather Bureau in New York, 69, Dec. 21.

Kirkland, Winifred M., author and teacher, 70, May 14.

Klebs, Dr. Arnold C., Swiss physician, medical bibliographer, and specialist in tuberculosis, 72, March 8.

Klimecki, Gen. Tadeusz A., Chief of Staff of the Polish Army, 48, July 4.

Knight, Eric, novelist, 45, Jan. 15.

Kovacs, Dr. Eugen, former Balkan correspondent of *The New York Times*, 48, Oct. 16.

Kramer, Charles, former Congressman (Calif.), 63, Jan. 20.

Kruger-Gray, George, British painter and heraldic designer, 62, May 4.

Kummer, Frederick Arnold, novelist and playwright, 70, Nov. 22.

Lachman, Maurice, inventor in structural steel and pioneer in electrical welding, 95, June 10.

Lackland, Brig. Gen. Frank D., 58. April 27.

Ladd, Dr. Carl E., dean of the State College of Agriculture, Cornell University, 55, July 23.

La Fontaine, Prof. Henri, Belgian educator and president of the International Bureau of Peace, 89. May 26.

Lamar, Mrs. Clarinda Pendleton, author and leader in civic affairs, 86, April 27.

Landes, Bertha K., former mayor of Seattle, 75, Nov. 29.

Landsteiner, Dr. Karl, Nobel prize winner for medicine in 1930, 75, June 26.

Lane, Sir William A., British plastic surgeon, 86, Jan. 16.

Lang, Mrs. Florence Osgood Raud, art patron and philanthropist, 81, Feb. 5.

La Puma, Vincenzo, Cardinal, prefect of the Congregation of Religions at Rome, 69, Nov. 4.

Latham, Fred G., veteran stage director, 90, Jan. 31.

Laughlin, Frank C., New York lawyer and jurist, 83, Jan. 18.

Laughlin, Dr. H. H., geneticist and immigration authority, 62, Jan. 26.

Lee, Edward T., co-founder and dean of the John Marshall Law School, 82, Dec. 14.

Lefevre, Edwin, financial writer and authority on antiques, 73, Feb. 22.

Leighton, Frank T., Rear Admiral U.S.N., 58, Nov. 23.

Lenygon, Francis H., British decorator, 66, June 12.

Leonard, Rev. Adna Wright, Methodist bishop, 68, May 3.

Leslie, Lady, wife of Sir John Leslie and aunt of Prime Minister Winston Churchill, Aug. 22.

Lewing, Adele, pianist, composer, and piano teacher, 82, Feb. 16.

Lewis, Col. George C., soldier and military instructor, 67, Aug. 21.

Lewis, Lawrence, Representative in Congress (Col.), 64, Dec. 9.

Ley, James W. T. Welsh journalist, authority on Dickens, 64, Aug. 21.

Libero, Dr. Casper, Brazilian newspaper publisher, Aug. 26.

Lilina, Maria Petrovna, Russian actress, 77, Aug. 24.

Limonta, Dr. Hechevarria, Cuban jurist, 78, April 12.

Lindsey, Benjamin B., Colorado jurist and writer, and lecturer on juvenile delinquency, 73, March 26.

Link, Prof. Adeline De S., teacher and research worker in chemistry, 51, Nov. 20.

Lin Sen, President of China, 79, Aug. 1.

Linton, Frank B. A., artist, 72, Nov. 13.

Loftus, Marie Cecilia (Cissie), actress and mimic, 66, July 12.

Logan, Mrs. Frank Granger, philanthropist and patron of the arts, 81, Nov. 1.

Logan, James A., Commodore U.S.N., Sept. 4.

Lohr, Herman, British composer, 72, Dec. 6.

Lonsdale, John G., banker and railroad builder, 71, June 16.

Love, Montagu, actor, 62, May 17.

Lowden, Frank O., former Governor of Illinois, 82, March 20.

Lowell, Dr. A. Lawrence, president emeritus of Harvard University, 86, Jan. 6.

Luckenbach, Edgar F., shipping leader and sportsman, 77, April 26.

Lufriu y Alonso, Rene, Cuban historian and diplomat, 52, March 6.

Lutz, Dr. Frank E., entomologist, 64, Nov. 27.

Lyons, Thomas J., president, N. Y. State Federation of Labor, 49, May 6.

MacDonald, Rev. Dr. Duncan B., Semitic scholar and author, 80, Sept. 6.

MacDougall, Rear Admiral William D., 75, March 5.

MacEwen, Walter, painter and etcher, 85, March 20.

Macfarlane, Dr. John M., botanist, 87, Sept. 16.

Machado de Castro e Silva, José, justice of the Brazilian Supreme Military Tribunal, 77, June 10.

Mack, Julian W., Federal jurist and Jewish leader, 77, Sept. 5.

Mackay, Dr. Ernest J. H., English archaeologist, 63, Oct. 2.

Mackintosh, Most Rev. Donald, R. C. Archbishop of Glasgow, 66, Dec. 8.

MacVeagh, Rogers, lawyer and author, 55, Sept. 18.

Madison, James (Charles Aronstein), theatrical editor, 72, March 27.

Magidoff, Jacob, Jewish journalist, 74, Aug. 26.

Magie, Dr. William F., physicist and educator, 84, June 6.

Main, Charles T., engineer, 87, March 6.

Maiztegui, Juan José, Archbishop of Panama, 65, Sept. 28.

Manion, Dr. Robert J., Canadian statesman, 61, July 2.

Mapes, Victor, playwright, 73, Sept. 27.

Marett, Dr. Robert R., British anthropologist, 76, Feb. 18.

Marquardt, Alexandria, harpist, 77, April 23.

Marquis, Albert Nelson, founder of *Who's Who in America,* 89, Dec. 21.

Marshall, Tully, stage and screen actor, 78, March 10.

Martin, Dr. Lillian J., psychologist, 91, March 26.

Marvin, Charles F., former U. S. meteorologist, 84, June 5.

Masliansky, Rev. Zvi Hirsch, Zionist leader, 86, Jan. 11.

May, Dr. Charles H., ophthalmologist, 82, Dec. 7.

McAdie, Dr. Alexander G., meteorologist and astronomer, 80, Nov. 1.

McCollester, Dr. Lee S., dean emeritus of Crane Theological School, Tufts College, 84, Dec. 26.

McDaniel, Brig. Gen. Arthur B., reconnaissance command officer, 48, Dec. 26.

McFarlane, Lewis B., telephone pioneer and executive, 91, June 9.

McIntyre, Marvin H., secretary of President Roosevelt, 65, Dec. 13.

McKenna, Reginald, former British Chancellor of the Exchequer, 80, Sept. 6.

McNaught, Andrew J., New York State jurist, 70, June 7.

McSpadden, Sallie Rogers, sister of Will Rogers, 79, Aug. 25.

Mee, Arthur, British journalist and author of juvenile books, 67, May 28.

Meloney, Mrs. William Brown, journalist, June 23.

Melzer, Roman F., Russian architect, 83, April 28.

Mendez, Joaquin, Guatemalan journalist and diplomat, 82, Sept. 27.

Merritt, Abraham, editor and author, 59, Aug. 21.

Merry Del Val y Zulueta, Alfonso, Marquis, Spanish diplomat, 79, May 26.

Metzler, Dr. William H., Educator, 79, April 18.

Miliukoff, Paul Nikolaivitch, Russian official, historian, and educator, 84, March 31.

Miller, Harry A., engineer, designer, and builder of racing cars and coats, 68, May 3.

Miller, Richard E., painter and dean of the Provincetown art colony, 67, Jan. 13.

Millerand, Alexandre, former President of France, 84, April 6.

Millay, Kathleen (Mrs. H. I. Young), novelist, poet, playwright, sister of Edna St. Vincent Millay, 46, Sept. 21.

Miner, Dr. James B., psychologist, 69, March 24.

Minter, Rear Admiral James M., Medical Corps, U.S.N., 60, May 11.

Miserendino, Vincenzo, Sculptor, 67, Dec. 27.

Moffat, Jay Pierrepont, U. S. Minister to Canada, 46, Jan. 24.

Moisseiff, Leon S., engineer and bridge builder, 70, Sept. 3.

Molke, Hans Adolf von, German Ambassador to Spain, 58, March 22.

Moray, Eighteenth Earl of, soldier and agriculturist, 50, July 9.

Morgan, John Pierpont, banker and philanthropist, 75, March 13.

Morgan, Sr., William Fellowes, philanthropist, 82, May 2.

Moore, Rev. Dr. Edward C., theologian and teacher, 85, March 26.

Morrill, Dr. Albro D., biologist and educator, 88, June 8.

Morton, Sir James, British dye expert and author, 76, Aug. 22.

Mowinckel, Dr. Johan Ludwig, former Premier of Norway, 72, Sept. 30.

Mullally, Brig. Gen. Thornwell, soldier and lawyer, 75, March 16.

Muti, Lieut. Col. Ettore, Italian air ace and Fascist leader, 41, Aug. 24.

Nares, Owen, British actor, 55, July 31.

Nathanson, Nathan L., U. S.-born Canadian theater operator, 57, May 27.

Nemirovich-Dantchenko, Vladimir, director of the Moscow Art Theatre, 85, April 25.

Nevin, Arthur F., composer and teacher, 72, July 10.

Newfang, Oscar, credit expert and author, 68, Feb. 14.

Newland, Dr. David J., geologist and authority on mineral deposits, 71, Oct. 18.

Nichols, Neil E., Rear Admiral U.S.N., 63, June 23.

Nields, John P., former Federal jurist (Del.), 75, Aug. 26.

Nielsen, Alice, opera singer, 66, March 8.

Oakes, Sir Harry, Anglo-American industrialist, 69, July 8.

O'Brien, Frank M., editor of *The New York Sun,* 68, Sept. 22.

O'Brien, Rev. Michael J., Archbishop of Kingston, Ont., 69, Aug. 30.

O'Connell, Hugh, actor, 45, Jan. 19.

O'Day, Mrs. Caroline L. G., social reformer and former Congresswoman (N. Y.), 67, Jan. 4.

Ogilby, Dr. Remsen B., president of Trinity College, 62, Aug. 7.

O'Gorman, James A., former U. S. Senator (N. Y.), 83, May 17.

Okeson, Walter R., vice president and treasurer of Lehigh University, 68, Nov. 4.

Olds, Major Gen. Robert, air force commander, 46, April 28.

Oliver, Dr. John R., psychiatrist, medical historian, novelist, 71, Jan. 21.

Olivier, Lord (Sir Sydney Olivier), British colonial official, 83, Feb. 15.

Onegin, Sigrid, German-Swedish opera singer, 52, June 18.

Oppenheimer, Franz, German sociologist and political economist, 79, Sept. 30.

Osborne, Dr. John E., former Governor of Wyoming, 89, April 24.

Osgood, Prof. William F., mathematician and educator, 79, July 22.

Overman, Lynne, actor, 55, Feb. 19.

Paddock, Capt. Charles W., Marine Corps officer and former track runner, 42, July 22.

Palmarini, Umberto, Italian actor, 57, Jan. 1.

Palmer, Edgar, industrialist and Princeton benefactor, 62, Jan. 8.

Pappenheim, Prof. Martin, Viennese psychiatrist, 62, Nov. 22.

Parker, William M., Pennsylvania jurist, 72, Aug. 5.

Parsons, Dr. Edward S., educator, 79, April 22.

Partridge, Frank C., former U. S. Senator (Vt.), 81, March 2.

Passfield, Lady (Mrs. Sidney Webb), Socialist, labor leader, and author, 85, April 30.

Paton, Dr. William, British mission official and author, 56, Aug. 21.

Pearson, Dr. Thomas G., ornithologist, 69, Sept. 3.

Peek, George N., farm authority and industrial executive, 70, Dec. 17.

Pell, Dr. Edward L., clergyman, author, and lecturer, 81, June 11.

Pellegrinetti, Cardinal Ermenegildo, Vatican diplomat, 67, March 29.

Pena, Pedro, former President of Paraguay, 80, July 29.

Perret, Dr. Frank A., authority on volcanoes, 75, Jan. 12.

Phelps, Dr. William Lyon, author, teacher, literary critic, 78, Aug. 21.

Phillips, Sir Frederick, British financial expert, 58, Aug. 16.

Phillips, John C., former Governor of Arizona, 72, June 24.

Pier, Garrett C., archaeologist, 68, Dec. 30.

Pierce, Dr. Ulysses G. B., Unitarian clergyman and former chaplain of U. S. Senate, 78, Oct. 10.

Plaisted, Frederick W., former Governor of Maine, 77, March 4.

Platt, Elizabeth T., librarian of the American Geographical Society, 43, May 22.

Plymouth, Second Earl of, English landowner and public official, 54, Oct. 1.

Poincaré, Mme. Raymond, widow of the former President of France, May 19.

Polk, Frank L., former Under Secretary of State, 71, Feb. 7.

Pollock, Courtenay E. M., British sculptor, inventor, and author, June 8.

Pontoppidan, Henrik, Danish author, 86, Aug. 21.

Poole, Franklin O., librarian, New York Bar Association, 70, Feb. 6.

Portland, Sixth Duke of, 85, April 26.

Poulton, Sir Edward B., British zoologist, entomologist, 87, Nov. 21.

Pound, Admiral Sir Dudley, former British First Sea Lord and Admiral of the Fleet, 66, Oct. 21.

Powell, Brig. Gen. William D., aide, Gen. Stilwell in China, 49, Oct. 6.

Powers, James T., comedian, 80, Feb. 10.

Prezan, Constantin, Rumanian Field Marshal, 82, Aug. 27.

Price, James H., former Governor of Virginia, 61, Nov. 22.

Price, Kate, film actress, 70, Jan. 4.

Price, Dr. Orlo J., Baptist clergyman and church leader, 72, Feb. 12.

Pruever, Julius, German-American pianist and conductor, 69, July 8.

Rachmaninoff, Sergei V., pianist, conductor, composer, 69, March 28.

Ramm, Fredrik, Norwegian editor-journalist, Nov. 15.

Rank, Joseph, British manufacturer and philanthropist, 89, Nov. 13.

Rashdau, Ludwig, German diplomat and publicist, 94, Aug. 19.

Rathbone, Albert, former Assistant Secretary of the Treasury, 75, Aug. 20.

Ratshesky, Abraham C., banker and diplomat, 78, March 15.

Ray, Charles, former film star, 52, Nov. 23.

Ray, Ted, British golf star, 66, Aug. 27.

Reed, Mary, U. S. missionary in India, 88, April 4.

Reich, Dr. Nathaniel J., Egyptologist, 61, Oct. 5.

Reid, Dr. Mont R., head of the Department of Surgery, University of Cincinnati, 54, May 11.

Reinhardt, Max, German-born producer of "The Miracle," "Everyman," "Oedipus Rex," 70, Oct. 31.

Remick, James W., New Hampshire jurist, 82, Feb. 10.

Reuter, Vice Admiral Ludwig von, German naval officer in First World War, 75, Dec. 21.

Reynolds-Stephens, Sir William, British sculptor, 80, Feb. 26.

Rice, Cole Young, poet and novelist, 70, Jan. 24.

Richards, Mrs. Laura E., author and daughter of Julia Ward Howe, 92, Jan. 14.

Richardson, Friend W., former Governor of California, 78, Sept. 5.

Riggs, Rev. Henry H., Near East missionary, 68, Aug. 19.

Roberts, Sir Charles G. D., Canadian poet, author, 83, Nov. 26.

Roberts, Percival, steel industry leader and expert, 86, March 6.

Robilant, Gen. Count Mario di, Italian senator and army officer, 88, July 29.

Rogers, Dr. Agnes Low, educator, 58, July 16.

Rolfe, Dr. John C., Latin and Greek scholar, 83, March 26.

Roosevelt, Kermit, son of late President Theodore Roosevelt, 53, June 4.

Roper, Daniel C., former Secretary of Commerce, 76, April 11.

Roper, Mrs. Janet Lord, (Mother Roper), manager of the Seamen's Church Institute, New York, 74, April 5.

Rosanoff, Dr. Aaron J., psychiatrist, 64, Jan. 7.

Rosenau, Dr. William, Hebrew scholar and rabbi, 78, Dec. 9.

Rosenfeld, Dr. Kurt, former Prussian Minister of Justice and anti-Nazi leader, 66, Sept. 26.

Ross, David E., steering gear inventor, 71, June 28.

Rowan, Col. Andrew Summers, bearer of "Message to Garcia," 85, Jan. 11.

Roy, Mgr. Camille, former Rector of Laval University, Quebec, 73, June 24.

Russell, Brig. Gen. Clinton W., 51, March 23.

Russell, Lee M., former Governor of Mississippi, 67, May 16.

Sadler, Sir Michael, English educator, 82, Oct. 14.

Schillinger, Joseph, composer, 47, March 23.

Schlesinger, Dr. Frank, astronomer, 72, July 10.

Schoenherr, Karl, Austrian dramatist, 76, March 15.

Scott, Dr. James Brown, educator and international law authority, 77, June 25.

Sears, Rev. Dr. Charles H., Baptist leader, 72, May 3.

Selincourt, Ernest de, English poet and critic, 72, May 22.

Semon, Eric, concert manager and European aide of Metropolitan Opera Co., 61, May 20.

Sexton, U.S.N., Rear Admiral Walton R., formerly chairman of the Navy General Board, 66, Sept. 9.

Shannon, Col. Harold D., U. S. Marines leader in Battle of Midway, 50, Feb. 16.

Shannon, Joseph B., former Congressman (Mo.), 76, March 28.

Shaw, Mrs. George Bernard, wife of the playwright, Sept. 12.

Sheckell, Thomas O., landscape painter, 58, March 2.

Sherard, Robert H., British author, 81, Jan. 30.

Sheridan, Frank, stage and screen actor, 74, Nov. 24.

Shimazaka, Toson, Japanese poet and novelist, 71, Aug. 22.

Shute, Henry, New Hampshire jurist and author, 86, Jan. 25.

Sikorski, Gen. Wladyslaw, Premier of Poland, 62, July 4.

Singleton, Brig. Gen., Asa L., superintendent of the Manlius School, 66, June 7.

Sippel, Mrs. Betty Manro, former president of General Federation of Women's Clubs, 76, July 9.

Sitgreaves, Beverly, actress and dramatic coach, 76, July 14.

Smith, Prof. Clara E., educator in mathematics, 78, May 12.

Smith, Edward N., New York State jurist, 74, March 25.

Smith, Dr. Reed, dean of the Graduate School of the University of South Carolina, 62, July 24.

Snell, Henry Bayley, painter and art teacher, 84, Jan. 17.

Spykman, Dr. Nicholas J., former director of Yale Institute of International Studies, 49, June 26.

Steagall, Henry B., Representative in Congress (Ala.), 70, Nov. 22.

Stearns, Harold E., author and news correspondent, 52, Aug. 13.

Stefan, Dr. Paul, Austrian music critic and author, 63, Nov. 12.

Stein, Sir Aurel, British archaeologist and explorer, 80, Oct. 28.

Sternberg, Charles H., collector of fossils, 93, July 20.

Stevens, John F., civil engineer and railroad builder, 90, June 2.

Stimson, Frederic J., diplomat and author, 88, Nov. 19.

Stockley, Prof. W. F. P., Irish-Canadian educator, legislator, and author, 84, Aug. 14.

Stoessel, Albert, violinist and conductor, 48, May 12.

Stowe-Gullen, Dr. Augusta, Canadian physician and feminist leader, Sept. 25.

Strakosch, Sir Henry, British banker and economist, 72, Oct. 30.

Stridsberg, Gustaf, Swedish political writer, 66, Nov. 3.

Sutherland, Duchess of, formerly Mistress of the Robes to Queen Mary, 51, Aug. 24.

Swan, Dr. Henry J., British surgeon, 66, March 6.

Swartwout, Egerton, architect, 72, Feb. 18.

Swift, Eva May, missionary and founder of Lucy Perry Nobile Institute, Madura, India, 80, Nov. 11.

Taft, Horace D., educator and brother of William Howard Taft, 81, Jan. 28.

Taft, Mrs. William Howard, widow of the former President and Chief Justice, 81, May 22.

Taitt, Right Rev. Francis M., Episcopal Bishop of Pennsylvania, 81, July 17.

Tallmadge, Thomas D., portrait painter and miniaturist, 79, Feb. 3.

Tanner, Dr. Richard J. ("Diamond Dick"), Wild West figure, 73, July 2.

Tawresey, Rear Admiral John G., naval construction expert, 81, Feb. 17.

Tesla, Nikola, electrical inventor and designer, 86, Jan. 7.

Thomas, Dr. Charles S., Harvard educator, 74, June 26.

Thomson, Sir St. Clair, British laryngologist, 83, Jan. 29.

Tietjens, Paul, pianist and composer, 66, Nov. 25.

Tillett, Ben, British trades union leader, 82, Jan. 27.

Tooke, Dr. Charles W., municipal law authority and teacher, 72, March 1.

Tresca, Carlo, revolutionary syndicalist writer and editor, Jan. 11.

Trygger, Ernst, former Premier of Sweden, 86, Sept. 24.

Tulling, Frans, Dutch sculptor, 67, Sept. 1.

Tussaud, John Theodore, director of Mme. Tussaud's Waxworks Museum in London, 86, Oct. 13.

Twitmyer, Dr. Edwin B., psychologist, 69, March 3.

Ullstein, Herman, German publisher, 68, Nov. 24.

Ulyanov, Dmitri, Russian Bolshevist leader and brother of Nikolai Lenin, 69, July 16.

Underwood, Bert E., photographer, 81, Dec. 27.

Upshur, Major Gen. William, Marine Corps commander, 61, July 22.

Valentia, Guillermo, Colombian poet and statesman, 70, July 8.

Vance, John T., law librarian of the Library of Congress, 58, April 11.

Van der Gracht, Dr. Willem A. J. van Waterschoot, Dutch geologist, 70, Sept. ?

Van Vliet, Brig. Gen. Robert C., 86, Oct. 27.

Veidt, Conrad, actor, 50, April 3.

Veiller, Bayard, playwright, 74, June 16.

Vidal y Barraquer, Cardinal, Archbishop (R.C.) of Taragona, Spain, 75, Sept. 14.

Vincent, Sir Percy, former Lord Mayor of London, 74, Jan. 23.

Waldorf, Ernest L., Methodist Episcopal Bishop of Chicago, 67, July 27.

Wallace, Thomas W., Lieutenant Governor of New York, 43, July 17.

Waller, Vice Admiral Arthur W. C., British officer in First World War, 70, Feb. 21.

Ward, Christopher L., author and former Governor of Delaware, 74, Feb. 20.

Ward, Dr. Freeman, geologist and educator, 64, Sept. 14.

Warren, Whitney, architect, 79, Jan. 24.

Wash, Brig. Gen. Carlyle H., air force commander in Colorado, 52, Jan. 26.

Waterbury, Lawrence, polo player, 65, May 25.

Waterman, Dr. Julian S., University of Arkansas educator, 52, Sept. 18.

Webber, John F., actor, 74, Nov. 25.

Webster, Dr. Leslie T., specialist in experimental epidemiology, 49, July 12.

Wedgwood, First Baron, British labor leader, legislator, 71, July 26.

Wellington, Sixth Duke of, killed in action, 31, Sept. ?

Wells, Dr. H. Gideon, pathologist, 67, April 26.

Wells, Prof. John E., authority in Mediaeval literature, 68, June 23.

Wertheimer, Dr. Max, German psychologist and educator, 63, Oct. 12.

West, Dr. Andrew F., dean emeritus of Princeton University Graduate School, 90, Dec. 27.

Wetzler, Herman H., composer and conductor, 72, May 29.

Wheat, Alfred A., District of Columbia jurist, 75, March 11.

Wheeler, Rear Admiral Sir William I. de C., British naval surgeon, 64, Sept. 13.

White, Dr. Henry S., mathematics teacher, 82, May 20.

White, Horace, former Governor of New York, 78, Nov. 28.

Whitehouse, Sir Harold B., president of the British Medical Association, 60, July 28.

Whiting, U.S.N., Capt. Kenneth, submarine and aviation pioneer, 61, April 24.

Widener, Joseph E., turfman, financier, and art collector, 71, Oct. 26.

Wigmore, John H., law authority and educator, 80, April 20.

Wile, Dr. Ira S., child specialist and psychiatrist, 65, Oct. 9.

Wiley, Admiral Henry A., former commander, U. S. Fleet, 76, May 20.

Willard, Theodore A., inventor and author, 80, Feb. 3.

Willet, Mrs. Anne Lee, stained glass window designer, 76, Jan. 18.

Williams, Dr. Henry S., physician, author, and scientist, 80, July 4.

Willoughby, Charles C., anthropologist, 85, April 21.

Winthrop, Grenville L., art collector and philanthropist, 79, Jan. 19.

Wood, Sir Kingsley, British Chancellor of the Exchequer, 62, Sept. 21.

Woollcott, Alexander, playwright and critic, 56, Jan. 23.

Worsley, Commander Frank A., British explorer, 70, Feb. 1.

Wright, Haidee, actress, 75, Jan. 29.

Wright, Lieut. Gen. William M., 79, Aug. 16.

Wyndham, Sir Percy, British diplomat, 79, Oct. 6.

Yamamoto, Isoroku, Japanese Admiral who instigated attacks on Pearl Harbor, 59, April?

Yorke, Oswald, actor, Jan. 25.

Young, Art, editor, cartoonist, and social crusader, 77, Dec. 29.

Young, Dr. Gilbert A., former head of Purdue School of Mechanical Engineering, 71, June 27.

Young, J. Arthur, actor, 63, Sept. 13.

Yon, Pietro A., Italian-American organist and composer, 57, Nov. 22.

Zeeman, Prof. Pieter, Dutch physicist, 78, Oct. 16.

Zernatto, Guido, former Austrian statesman and teacher, 39, Feb. 8.

Zhitlowsky, Dr. Chaim, Jewish leader and philosopher, 78, May 6.

Zimmermann, John E., public utilities engineer, 69, May 30.

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